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# MEMORIAL AND PROCEEDINGS

OF THE

# RIVER AND HARBOR

# IMPROVEMENT CONVENTION

ASSEMBLED AT

TUSCALOOSA, ALABAMA,

NOVEMBER 17TH, 1885.

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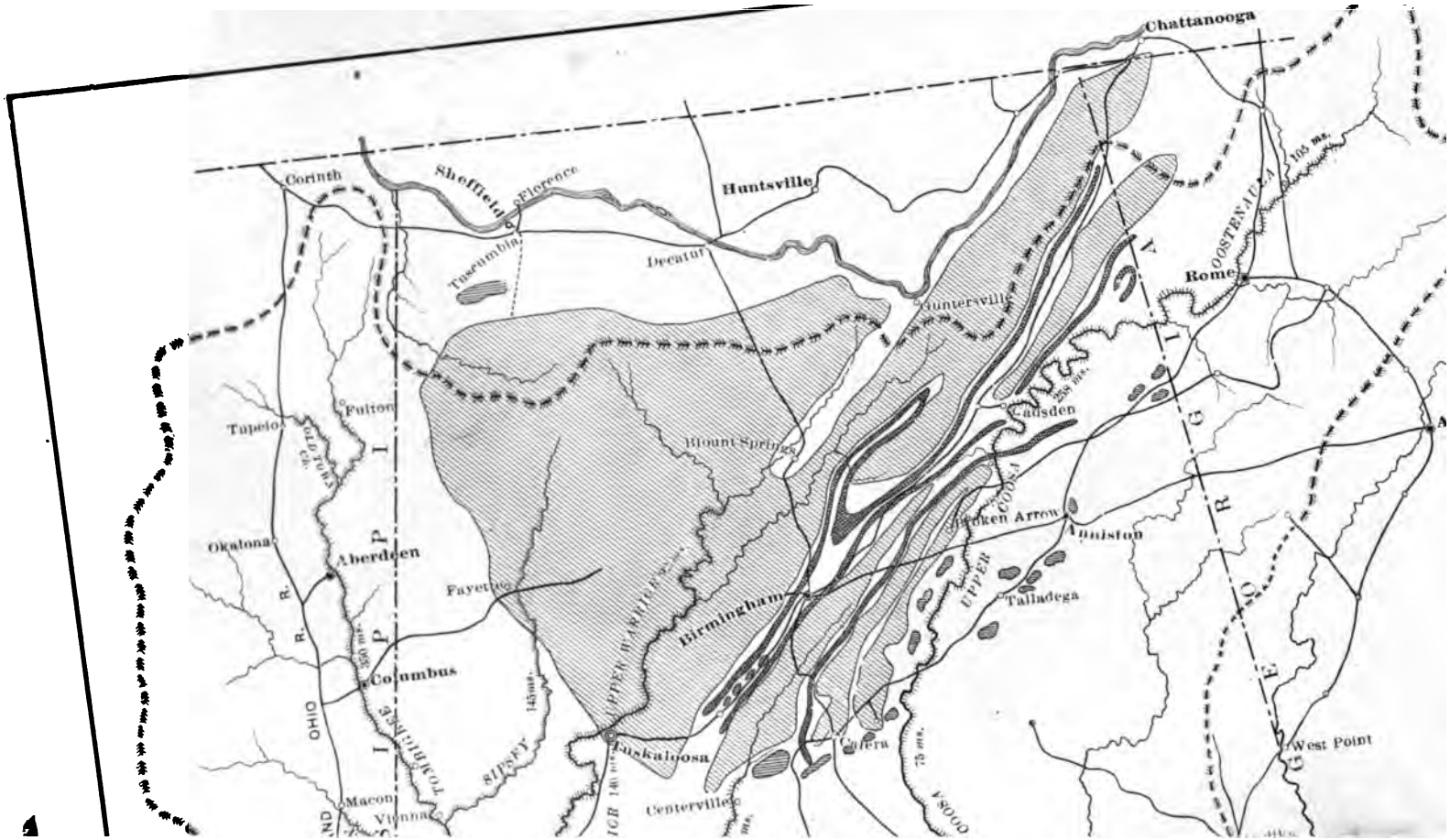
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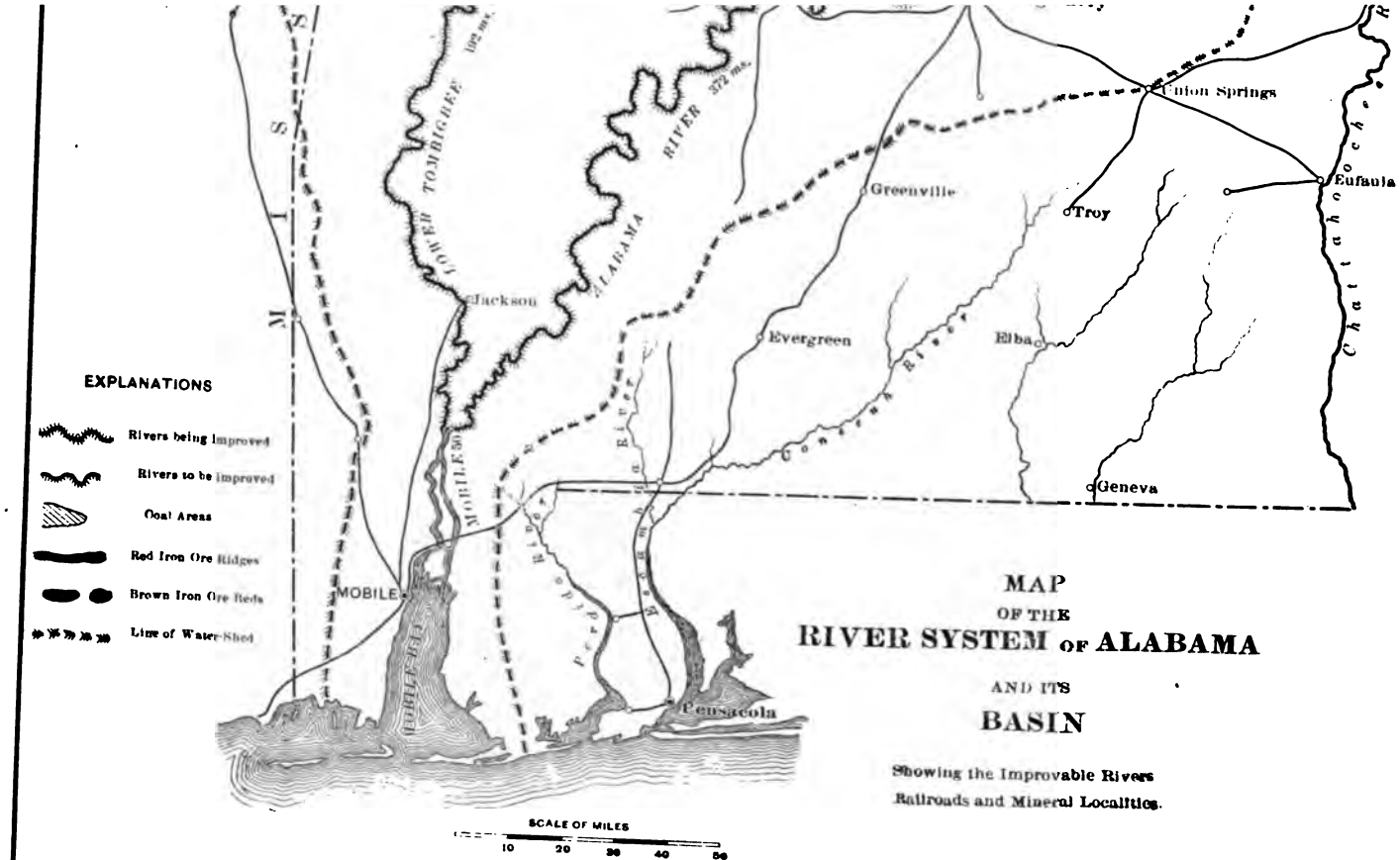
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Rivers to be Improved
Coal Areas
Red Iron Ore Ridges
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Line of Water-Shed
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AND ITS
BASIN
Showing the Improvable Rivers
Railroads and Mineral Localities.
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10 20 30 40 50
L.B. FOLGER ENG. DIR.
MOBILE
Jackson
Evergreen
Greenville
Troy
Union Springs
Eufaula
Elba
Geneva
Pensacola
TOMBIGBEE
ALABAMA
RIVER
Chattahoochee R.

# MEMORIAL AND PROCEEDINGS

OF THE

# RIVER AND HARBOR

# Improvement Convention:

ASSEMBLED AT

## TUSCALOOSA, ALABAMA,

*November 17th, 1885,*

INCLUDING VALUABLE, INTERESTING AND RELIABLE STATISTICAL FACTS AND OTHER INFORMATION

CONCERNING THE

# Coal, Iron and Agricultural Resources

OF

## ALABAMA, EAST MISSISSIPPI AND WEST GEORGIA,

CONTIGUOUS TO OR DRAINED BY THE RIVER SYSTEM OF ALABAMA;

WITH

## AN ACCURATE MAP OF THE TERRITORY

PENETRATED BY THE WATER-WAYS OF ALABAMA FLOWING INTO THE GULF OF MEXICO AT MOBILE.

CINCINNATI:
THE OHIO VALLEY PRESS,
No. 143 RACE STREET.
1886.

Arnold Bancroft Store
1-28-52

# INTRODUCTORY NOTE.

This publication contains a Memorial to the Congress of the United States and the deliberations of a Convention of more than two hundred representative business men of Alabama and adjoining States, met together to consider the important subject of River and Harbor Improvement, looking to the speedy development of our rich coal and iron fields, which lie so close to the Gulf, and accessible by water-ways so susceptible of improvement, and to bring into market the fertile lands watered by these streams, so fitly located to carry their bountiful products to the trade of the seas.

The accompanying map has been prepared with care and accuracy by Colonel HORACE HARDING, Engineer, with the assistance of Dr. EUGENE A. SMITH, State Geologist of Alabama, with a special view to showing the water-ways and harbor of Alabama, and their intimate connection with the great coal and iron wealth of this section. And the undersigned Committee respectfully ask the thoughtful attention of the reader, not only to the map, but also to the Memorial and the several communications in these pages from prominent men of scholarship and scientific knowledge, giving reliable and accurate information upon the subjects treated, and information valuable to business men, and valuable to the representatives in the Nation's councils from every locality. Indeed, this section of the country is destined at an early day to play a conspicuous part in shaping and controlling the commerce of this portion of the world, and in furnishing cheap coal and iron to the sea-going service of the United States Government.

H. H. BROWN, *Chairman*,
S. A. M. WOOD,
W. C. JEMISON,
*Committee on Publication.*

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# MEMORIAL

OF THE

# River and Harbor Improvement Convention

## ASSEMBLED IN TUSCALOOSA, ALABAMA,

November 17 and 18, 1885,

TO THE CONGRESS OF THE UNITED STATES OF AMERICA, ASKING THE APPROPRIATION OF A SUFFICIENT SUM OF MONEY TO COMPLETE THE DEEPENING OF MOBILE HARBOR, AND THE IMPROVEMENT OF THE NAVIGATION OF THE WATER-WAYS OF ALABAMA, WITH THEIR TRIBUTARIES IN ADJOINING STATES.

---

*To the Honorable Senate and House of Representatives of the United States in Congress assembled:*

Your Memorialists, who assembled in Convention, at Tuscaloosa, Alabama, on the 17th and 18th days of November, 1885, from the States of Alabama, Mississippi and Florida, respectfully and earnestly recommend, and ask the appropriation of a sum of money sufficient to complete, at an early day, the deepening of the Harbor of Mobile at least to twenty-three feet, and the improvement of the water-ways of Alabama and their tributaries.

It is a matter well known that through the Harbor of Mobile the agricultural productions of many States are sent to markets abroad, and the convergence of many railroads to the Port of Mobile gives it an importance with regard to direct trade with all the neighboring nations of the Gulf of Mexico and the South Atlantic.

This is a matter in common with many other ports on the Gulf of Mexico. In addition to this, and rapidly becoming far more

important to the great interests of the whole United States, is the development that at this point, where almost all of the waterways in the State of Alabama pour their floods into the Gulf, is found the nearest and cheapest port to which the immense mineral treasures of the State can be transported.

The rivers which finally fall into Mobile Bay spread out over the State like a fan, touching north-western Georgia on the east, and entering the eastern side of Mississippi. All of these rivers traverse immense coal fields, the FULL EXTENT and RICHNESS of which has not yet been fully determined, although enough is known now to justify the assertion that they are unsurpassed in the known earth.

Besides the coal deposits beds of iron ore, surrounded by every facility to be worked and used by man, are found contiguous to the coal and near all of said rivers.

These coal and iron deposits are rapidly attracting the attention of capitalists in this country and in Europe, and their development in the last ten years has been such as to create surprise in the minds of men habituated to the study of the mineral resources of the world.

For many years the coal used by vessels in navigating the waters which wash the shores of the West Indies, Mexico and all the South American States on the eastern side of that continent, has been brought from Europe, except a small fraction furnished at very high rates from Chili.

With water transportation, which the improvements of the rivers in Alabama will give, this entire traffic can all be turned to the Port of Mobile, and coal of a superior quality, and at vastly cheaper rates, furnished to those who need it.

To accomplish this the sum of money needed and asked for is comparatively insignificant when we consider the immense benefits to be obtained therefrom in actual wealth to the whole country.

This Convention, in this Memorial, need do no more than mention these things. No argument is necessary to press upon your minds the facts of the lasting advantages to result to the United States from the accomplishment of the object as stated.

That it may be easily attained the reports of competent engineers of the Government have fully demonstrated.

Nor have we, in this Memorial, thought it best to detain you with reiterating the excellent results to be reached by the com-

pletion of the great Governmental works on the Tennessee River. So many States are directly and positively interested in the early completion of the canal around the Muscle Shoals, and the removal of every obstruction to navigation in that noble river, that the recommendations of the River and Harbor Convention on that subject must have many able advocates.

The commercial relation of Alabama, Georgia, North and South Carolina, Tennessee and Kentucky, with all the North-western States, are directly involved in this work; and the recommendations of the departments at Washington indicate that there will be no delay in its completion.

The Convention, which assembled at Tuscaloosa and which addresses you in this Memorial, have directed the publication of the proceedings of that body, so that the results of their labors may be laid before Congress and the country.

The many able papers submitted to the Convention from its Committees, and which are contained in its printed proceedings, demonstrate, fully, these propositions:

*First.*—The existence of large and inexhaustible deposits of coal and iron and other minerals in the State of Alabama, near and along the line of the water-ways which flow into Mobile Bay.

*Second.*—Also, that along these rivers, outside of the means of transportation by railroads, there is produced large amounts of cotton and grain, which should be the subject of export from said Port of Mobile.

*Third.*—That the whole country traversed by said rivers is covered with forests, almost in their virgin state, of the finest timber, suitable for commercial purposes and for ship-building.

*Fourth.*—That all of these things apply strongly to the Tennessee River, with the addition that it flows through several States besides Alabama.

*Fifth.*—That the channel leading to the Port of Mobile can be made, with a moderate expenditure of money, of sufficient depth to admit vessels capable of carrying all the immense freight which the country will produce and the rivers bring to it.

*Sixth.*—That the improvement of the rivers of Alabama will have the effect to put at the Port of Mobile the best and cheapest coal in the world, sufficient in quantity to supply all the neighboring Nations, and all the vessels that sail from any of those ports, as well as those of the United States, so as to greatly enrich the whole country.

*Seventh.*—That the water-ways of Alabama will not only be of immense benefit to the commerce of this country and of the world in time of peace, but will also be of incalculable advantage to the United States in time of war.

Your Memorialists, therefore, with earnestness, request your early attention to the accomplishment of these great works which much redound, so certainly, in the increased prosperity of millions of your fellow-citizens, and inviting your careful and just consideration of all the matters contained in the Proceedings of the Convention, submit, most respectfully, the subject to your final determination.

Respectfully,

S. A. M. WOOD, *Chairman*,
DAVID CLOPTON,
A. O. LANE,
W. H. DENSON,
THOS. A. HAMILTON,
J. T. HARRISON,
N. H. R. DAWSON,
REUBEN CHAPMAN,
R. O. PICKETT.

# FIRST DAY.

## MORNING SESSION.

THE RIVER AND HARBOR IMPROVEMENT CONVENTION assembled in Tuscaloosa, Ala., November 17, 1885.

Hon. W. C. JEMISON, Mayor of Tuscaloosa, called the Convention to order in the following words:

GENTLEMEN—It becomes my duty and my pleasure to welcome you to the freedom and hospitality of the City of Tuscaloosa, which you have honored by selecting it as your meeting place. This is a peculiar pleasure to me, not alone because the whole State of Alabama is so intimately interested and connected with this Convention and its objects, but I trust you will pardon me for saying that I feel a pride in the fact that Tuscaloosa, my native city, stands at the base of, perhaps, the greatest coal and iron fields the world has ever produced, and at the head of navigation, on the Warrior River, connecting them with the Gulf, and standing as the gateway through which the rich treasures of the Warrior coal basin must pass to the commerce of the seas. I am satisfied beyond doubt that, the objects of this Convention being accomplished, nothing short of an earthquake can prevent Tuscaloosa's being one of the largest manufacturing cities of the South.

The committee of which I have the honor of being Chairman, in order to expedite matters, have taken the liberty of selecting several speakers to address the Convention, as follows: The Hon. H. Austill, on the subject, "The Importance of Deepening the Mobile Harbor;" General J. W. Burke, on "The Deposits of the Coosa and Warrior Coal Fields;" and Hon. E. L. Corthell, Chief Engineer of Captain James B. Eads, on the subject of "The

Tehuantepec Ship Railway"—a magnificent enterprise which is destined to be of immense benefit to this section. These addresses will be delivered at such times as will suit the pleasure of the Convention.

I have also taken the liberty of selecting as temporary Chairman, and to make the opening address to the Convention, a man whose name is inseparably connected with one of the most progressive cities of modern times.

I now have the pleasure of introducing the Hon. A. O. LANE, Mayor of Birmingham.

The Hon. A. O. LANE, before taking the Chair, addressed the Convention as follows:

SPEECH OF HON. A. O. LANE ON TAKING THE CHAIR TEMPORARILY.

GENTLEMEN OF THE CONVENTION—I am deeply sensible of the distinguished honor you do me in calling me to preside as temporary Chairman of this Convention. I expect such grand results to flow from your deliberations as that I shall always be able to point to my connection with this body with feelings of peculiar pride and satisfaction. I have no kind of doubt that your labors here will make a permanent impress upon the future welfare and destiny of this country. Alabama is a great State. Nature has given her all the elements of physical greatness. She is blessed with rich soil, with a fine climate, with lovely valleys, with noble mountains, with a splendid system of water-courses, with an excellent harbor, with magnificent timber, and with matchless mineral deposits of almost every kind. Superadded to all these, her sons and daughters are possessed of skill and energy worthy to utilize these princely gifts of nature. Then why is it she does not take front rank in the grand galaxy of States? The answer to this question lies in the absence of cheap transportation. That is the great problem to be solved for Alabama before she can take her proper rank among her less favored sister States. It is her greatest want to-day. The lack of it is paralyzing her industries, retarding her prosperity and checking her growth. The evil exists beyond cavil or dispute. Let us find a remedy. That is the province of this Convention.

We can not expect our railroads to cure the malady. True, they are potent factors in giving life, and strength, and vigor to

our Commonwealth, and adding to her commercial prosperity. I have naught to say against them. I would build them up, not tear them down—foster them, not destroy them. But for them Birmingham would have been impossible; Jefferson County would not have about doubled her population in a single decade—from 1870 to 1880; and the peerless resources of Alabama would not now be the marvel and wonder of the present age. They must be run, and run for profit. I would not rob them of a justly earned dividend on a true valuation of road-beds, rolling stock and other property and investments. They should not want big dividends on watered stock. But the fact is, they are sometimes guilty of extortion and overcharges and discriminations. These are evils that should be checked and curbed. But it should rarely be done by legislation. It is far better to rely on healthy and far-reaching competition. They may mock and laugh at railroad commissions, but when the edict of cheaper rates goes forth from competing lines, that edict must and will be obeyed. Water transportation will solve the problem. Railroad companies recognize this, and they sometimes seek to stifle competition on the water-ways by buying up canals and closing them against commerce, as they have done in Pennsylvania and Virginia and other States. They know it will cheapen freights, and believe it will decrease their dividends. It will cheapen freights, but I do not believe it will, in the long run, cause the railroads to be the losers. In this day of vim, and life, and push, most freights and passage demand a rapid transit. And, while water transportation would largely monopolize the heavy freights, the country would be so built up and enriched that the railroads would gain more in traffic and travel and the increased lighter freights than they would suffer by the loss of the heavier cargoes.

And why do I say cheap transportation is the pressing need of the hour? Is it not a fact that the output of coal in Alabama increased from 11,000 tons in 1869 to 1,500,000 tons in 1884? That seems to be a gratifying showing. Well, in answer to that, I will say that, with cheap water transportation, the coal output in Alabama may as well be 50,000,000 tons in 1900. We must not forget that the productive coal area in Alabama is nearly half as great as that of the whole of Great Britain. The coal measures of Alabama are 2,600 feet in thickness—nearly 500 feet greater than those of any other State in the American Union. It is easily mined by means of drifts and slopes, the mines often

draining themselves, and the coal, in rich, thick seams, cropping out on the very banks of the rivers. It ships well, and is admirably adapted to steam, coke, gas and domestic uses. And yet, in the face of all these facts, Alabama does not ship a single pound of coal into Mexico and the Central and South American States. She is forced to stand idly by and see this magnificent trade, worth millions of dollars, and which nature ordained to be hers, gobbled up by British bottoms from coal fields five times as far away as Alabama's products. Coal is put on board ship in England at $2 50 per ton, while here in Alabama it is put on board cars at, say $1 25 per ton; and then it costs $2 more per ton to ship it to Mobile, and then, perhaps, it has to be lightered down the bay to deep water. Now, suppose we could transport our coal on barges to the Gulf at a cost of twenty-five cents per ton, Alabama would soon hold this munificent trade, to which she is so justly entitled by natural advantage and geographical position. Thus, not only would Alabama be enriched, but it would be a tardy but glorious triumph for the American merchant marine.

And how is this cheap transportation to be secured? Our rivers must be opened up to navigation. Millions are spent every year in providing cheap transportation from the East to the West. This is reversing nature, and nature is wiser than man. Natural and manufactured products are generally the same on parallels of latitude, and hence there is no very great demand for interchange of products on those parallels, while the natural currents of trade are from North to South for the interchange and barter of all those products, natural and artificial, indigenous, so to speak, to semi-arctic and semi-tropical spheres. Now, nature sends our rivers coursing from North to South, and they must have an outlet to the sea. It is of paramount importance to us to have accessible Southern markets, because the North is already supplied with almost everything we manufacture.

The Mobile Bay receives our noble rivers. Her channel must be deepened so as to float the largest freight steamships of heavy tonnage and great draught. Then her principal feeders—the Warrior, the Coosa and the Cahawba—must be opened up to navigation into the very heart of the coal belts of Alabama. Mobile should be the focal center, sending out life-blood into all the great arteries of our Commonwealth, and receiving back fresh vitality from every commercial pulsation. By means of jetties

at some points, and locks and dams at others, all the principal rivers of Alabama leading to Mobile Bay can be made navigable, year in and year out. What a consummation that would be! Then, indeed, would Mobile again become the pride of the Gulf States. We would see her docks crowded with ships from every clime, laden with cotton and fruits and timber and coal and iron. Her pristine grandeur and glory would return with renewed and increased splendor. She would soon whiten the seas with ships of her own build. The reduced cost of coal and iron would enable her to drive out the British products from Mexico and the Central and South American States. She would soon have a National arsenal and heavy ordnance manufactory, impossible for inland cities, because cars can not haul the immense guns, and railroad bridges can not support them. These industries would fill the city with skilled artisans. Foreign and domestic trade would flow in upon her, and she would soon become one of the livest marts, as she is now one of the fairest cities that ever rested on bay or gulf or sea.

And now as to the means of reaching these grand results. The General Government must come to the rescue. However firmly we may believe in State rights, in a political sense, we must come to regard this country as a Nation, in a commercial sense. It is just as impossible for the United States to fail to suffer when one of the individual States is languishing as it is impossible for the human body to fail to suffer when one of its limbs is paralyzed. And if there is one thing on this green earth with which I have no patience, it is to have a long homily on the Constitution when my State is crying aloud for the energizing force of Government aid to stimulate her waning industries. But for such monumental folly our State would now be threaded with railroads and traced with navigable streams from Georgia to Mississippi and from Tennessee to the Gulf. I can almost hear the croakers saying now we can't do anything; it is needless to try. Away with such frippery and nonsense. I have no toleration for them. I have never yet known a team to pull a load up hill by lying down in the shade at the bottom. Ask and ye shall receive; ask not, and you may be very sure you will receive not. If I were deputed by his Satanic Majesty, and forced to send a curse upon this State, and given power to choose my own instruments of waste and desolation, I would never select locusts, that sometimes sweep over Europe, darkening the heavens, or grasshoppers

that march through the West, leaving desolation in their track, or floods that now and then make portions of Louisiana a vast waste of waters, or cyclones that bring terror to the stoutest hearts, or cholera that sweeps away its thousands, but leaves the living in health and vigor. No; I would choose rather a horde of croakers, whose croakings, and croakings, and croakings are more dismal than the croaking of frogs in marshy ponds; and then, without awaiting results, I would repeat the work, thorough and complete, in killing the hopes, and sapping the energies, and benumbing the industries of the people.

I have seen, in early spring, splendid flower yards just beginning to be radiant with beauty and redolent of fragrance; I have seen tulips and roses, lilies and verbenas, hyacinths and daisies, japonicas and violets, carnations and heliotropes, as they smiled upon the morning and kissed the evening dews, give promise of blessing happy households throughout a long and glorious summer; and then I have seen wanton boys trample and tear down, and pull up, and waste and destroy, until their mothers would be forced, from sheer self-defense, to send them to the back yard and keep them there. And so it is with these thoughtless croakers, as they go about in the great garden of our Commonwealth, plucking buds of hope and destroying blooms of promise from the future of our State. The only chance to escape their baneful influence is to send them to the back ground, while the workers, with hope and zeal, and cheer and energy, build up the waste places, and, sowing broadcast the germs of prosperity, till them to ripeness and maturity.

This Convention has a great and delicate commission before it. We must see to it that we have an outlet to the Gulf, aptly termed the Mediterranean of the New World, so that her Gulf Stream can receive our vessels upon her friendly bosom and drift them away to foreign markets faster than a railway train. We must uproot and tear away the obstructions in our rivers, that stand like a Chinese wall around our State. We are a part of a great Nation, and nothing must be allowed to clog the wheels of National progress. Mobile harbor is a rich patrimony bequeathed by a bounteous Providence, in which every citizen of America has a common heritage.

Let us so direct our efforts as not to fritter away our strength or waste our energies. Let us strive to get appropriations for our harbor and those streams that will prove her greatest feeders in

freights and commerce, not forgetting a canal to link together the Coosa and the Tennessee, which will give one of the finest valleys on the globe a chance to pay willing and loving tribute to our only sea-port. The General Government would save almost enough every year in reduced cost of coal and iron to pay the interest on the needed appropriations. And when those rivers are opened up you will see towns and cities lining their banks, manufactories springing into life and activity, infusing fresh strength and renewed vigor into our State and National progress. Agriculture, finding home markets, will be able to stand alone without leaning on the West; and then, in the great roll-call of States, Alabama will stride forth a veritable giant, prouder of her grandeur and glory than a young warrior of his first gleaming sword and gaudy epaulettes.

On motion of Mayor W. C. JEMISON, Mr. J. L. Watkins, of the *Birmingham Daily Age*, was made temporary Secretary.

On motion of Dr. PETER BRYCE, of Tuscaloosa, those gentlemen, from this and other States, who had been requested to attend the Convention, were invited to seats in the hall and to participate in the proceedings thereof.

On motion of Col. T. G. BUSH, of Mobile, a Committee of ten was appointed to select permanent officers, and to recommend the plan of work with such Committees as would be necessary to transact the business of the Convention.

The Chair appointed the following-named gentlemen to constitute said Committee: T. G. Bush, of Mobile; A. A. Wiley, of Montgomery; R. H. Pearson, of Birmingham; J. H. Fitts, of Tuscaloosa; S. W. John, of Selma; George Lyon, of Demopolis; H. R. Shorter, of Eufaula; M. L. Stansel, of Carrollton; W. B. Wood, of Florence; and J. M. Davidson, of Centerville.

The Committee having retired for deliberation, the Hon. JAMES L. PUGH was enthusiastically called upon to address the Convention.

Senator Pugh being present, responded as follows:

He said he was glad to meet such a body of representative men, and to express his hearty approval of the objects of the Convention. He had not given any thought to the make-up of a speech. He accepted it as a fact that every delegate present warmly favored the improvement of water navigation in Alabama, and deepening the bay channel at Mobile for the passage of the largest steamers. It was a useless consumption of time to argue or discuss the transcendent importance of these improvements.

The question was: What was best to be done to get Congress to make the necessary appropriations? The Convention knew the State of Alabama was chuck full of the raw material of wealth. It consisted of inexhaustible supplies of coal, iron, limestone, fire-clay, kaolin, slate, copper, and vast quantities of yellow pine. That portion of the State which contain these marvelous supplies is penetrated by water-ways, and these water-ways enter into the Bay of Mobile and Pensacola, and all capable of being made navigable by the expenditure of about three millions of dollars. No outlay of the public money would insure a larger return. This natural wealth, and the water-ways that would enable capital and labor to reach it, will remain forever useless to mankind without transportation, and the best transportation to insure markets and cheap supplies is water transportation, for the plain reason that it is the cheapest. Open the water-ways to Mobile, and you certainly make it the cheapest coaling port in the world. Ocean commerce consumes fabulous quantities of coal, and the saving to interstate and international trade, requiring the transporting power of steam, can not be estimated in figures. As soon as this cheap transportation is furnished, labor and capital will be at once put to work to unearth and utilize these wonderful supplies of wealth. Congress alone has the power to make these water-ways navigable, for the reason that Congress has extended sole jurisdiction over them by declaring them highways.

The moment Congress declares any water course a highway for trade and commerce, the duty attaches to keep that highway open to navigation, and if the navigation is prevented or obstructed by natural or other causes, Congress has the power to remove them; and whether it will exercise that power depends upon

whether the contribution to interstate and international trade and commerce will justify the appropriation necessary to keep open the navigation. The practice of the Senate and House committees of taking one-third or one-half of the amount reported by engineers as necessary for the work of the fiscal year, and dividing that amount among the several States to secure votes, is all wrong. The question is whether the improvement of the navigation of the river or harbor will add enough benefit to interstate and international commerce to justify Congress in making the appropriation? The location of the river or harbor on the map makes no difference. If Alabama has been blessed by nature beyond other States in her resources and rivers and harbors, and their development and improvement will contribute more benefit than other States to the trade and commerce of the country, she is entitled to the necessary appropriation, if it takes five or ten times as much as can be profusely expended in other States.

But the great difficulty is to get members of Congress to get out of sight of the smoke of their own chimneys. They must see which way the wind blows at home. The river and harbor in "my district" and "my State" must have a good grab or you lose my vote for your river and harbor bill. Railroad representatives unite with the discontented, and load down river and harbor bills with the most objectionable appropriations, and then join all others in defeating the bill, as they succeeded in doing at the last session of Congress.

The Convention will do good in showing the amount of public interest felt in the State in securing these great improvements; and it will be well for a committee to collect and embody in a memorial all the facts and arguments which have heretofore been communicated to Congress in detached portions.

T. G. BUSH, Chairman of the Committee on Permanent Organization and Work of the Convention, reported as follows:

PRESIDENT.

H. T. Toulmin, of Mobile.

VICE-PRESIDENTS.

James T. Jones, W. S. Thorington, John A. Foster, William M. Brooks, T. J. Smitherman, A. C. Hargrove, James Crook, Z. P. Morrison.

SECRETARIES.

W. W. Screws, L. J. Dupré, H. H. Brown, Thos. Hudson.

COMMITTEE ON HARBOR.

T. A. Hamilton, Chairman; H. Austill, J. T. Jones, J. M. Martin, David Clopton.

COMMITTEE ON WATER-WAYS.

S. A. M. Wood, Chairman; J. C. Webb, J. O. Banks, J. N. Suttle, T. H. Carr, H. Harding, J. D. Weeden, J. L. Tanner, W. H. Gardner, A. H. Moses.

COMMITTEE ON MINERAL RESOURCES AND TIMBER.

J. W. Burke, Chairman; C. Cadle, Jr., E. A. Smith, J. T. Prince, A. O. Lane, B. A. Vaughn, W. H. Skaggs, T. H. Watts, Jr.

COMMITTEE ON AGRICULTURAL RESOURCES.

W. H. Gardner, Chairman; W. A. Walker, J. C. H. Jones, F. G. Lyon, T. J. Rutledge, A. C. Hargrove, G. M. Everhart, T. G. Fowler.

That the hours for meeting shall be from 10 o'clock A. M. to 3 o'clock P. M. Evening sessions to commence at 7 P. M.

On motion of the Hon. J. H. Bankhead, members of the press were invited to occupy seats at the reporters' table.

The following are the names of the delegates enrolled as members of the Convention:

*Anniston*—T. K. Scott, G. W. Foster, W. M. Ryals, J. B. Reese, J. J. Willet.

*Bibb Co.*—W. Webb, W. T. Waller, W. C. Cross, J. L. Davidson, J. N. Suttle, J. S. Gardner, E. Kennedy, C. Cadle, Jr., W. J. Nicolson, P. P. Clarkson, J. H. Courson, W. F. Goodson, T. J. Smitherman.

*Birmingham*—A. O. Lane, J. B. Boddie, J. W. McConnell, C. M. Hays, L. W. Johns, J. A. Yeates, B. H. F. Hoene, J. R. Smith, J. L. Watkins, J. T. Pierce, G. M. Cruikshank, R. Jemison, R. H. Pearson, W. A. Walker, Jr.

*Barbour Co.*—J. A. Foster, H. R. Shorter.

*Carrollton*—J. A. Billups, J. L. Hunnicutt, M. L. Stansel, J. C. H. Jones, J. K. P. Martin, J. R. Long.

*Columbus, Miss.*—J. O. Banks, D. P. Blair, J. T. Harrison, B. A. Vaughn, D. F. Robertson.

*Cullman*—G. A. Prinz.

*Cherokee Co.*—James A. Reeves.

*Demopolis*—T. G. Cornish, J. C. Webb, C. B. Whitfield, J. T. Jones, F. G. Lyon, G. G. Lyon, N. G. Winn.

*Eutaw*—E. Morgan, W. O. Monroe, J. Cohn, J. B. Head, G. Braume, W. W. Hill, J. P. McQueen, T. C. Clark, W. C. Oliver, J. McKee Gould.

*Florence*—Z. P. Morrison, C. H. Patton, J. S. Kennedy, Jr., J. M. Crow, W. B. Wood.

*Fayette Co.*—J. H. Bankhead, H. M. Bell.

*Gadsden*—W. H. Standifer, J. C. Whitlock, L. L. Dean, J. L. Tanner.

*Gainesville*—D. H. Williams, L. D. Godfrey, E. N. Kring, N. W. Trimble.

*Greensboro*—W. N. Knight, L. J. Lawson, W. B. Inge, J. H. Jack, J. P. Powers, A. M. Avery.

*Huntsville*—John D. Weeden, M. C. Baldridge.

*Jasper*—L. B. Musgrove, W. J. Kelly.

*Jacksonville*—James Crook.

*Lamar Co.*—W. A. Young.

*Livingston*—J. H. Little, B. F. Riley, J. J. Altman, R. Chapman, W. H. Sledge, J. W. Pharis, J. M. Hennegan.

*Montevallo*—E. G. Walker.

*Montgomery*—D. Clopton, G. M. Everhart, W. W. Screws, A. Fitzpatrick, T. H. Carr, W. S. Thorington, A. A. Wiley, S. A. Wood, T. H. Watts, Jr., T. J. Rutledge.

*Mobile*—Z. M. P. Inge, E, Ledyard, W. S. Foster, W. G. Little, T. S. Fry, Geo. L. Hopkins, J. J. Botter, Adam Glass, J. W. Burke, T. G. Bush, W. T. West, L. Brewer, E. R. Weems, S. Fiestorazzi, Mark Lyons, S. Brown, F. Forcheimer, O. F. Cawthon, W. H. Kon, H. F. Wilson, G. Horton, H. T. Toulmin, H. Pillans, H. Austill, W. C. Sanders, R. Sheridan, Jr., P. C. Hannan, T. W. McDonald, W. H. Gardner, George G. Duffee, E. B. Vaughn, T. A. Hamilton, W. G. Clarke, G. B. Clarke, R. B. Owen.

*Marion*—Thomas Hudson, J. F. Bailey, A. C. Howze.

*Marshall Co.*—Solomon Palmer.

*Morgan Co.*—J. M. Hinds, C. C. Sheats.

*Opelika*—B. H. Kieser.

*Pensacola, Fla.*—L. H. Sellers, J. D. Wolfe.

*Sheffield*—A. H. Moses.

*Selma*—W. M. Brooks, N. H. R. Dawson, E. T. Fowlkes, E. D. Bowles, G. H. Peacock, J. T. Knowlen, R. L. Wetmore, J. M. Dedman, S. W. John.

*Tuskegee*—W. C. McIver.

*Tuscaloosa*—J. H. Fitts, P. Bryce, W. C. Jemison, S. A. M. Wood, B. Friedman, E. N. C. Snow, A. B. McEachin, H. H. Brown, N. H. Browne, F. S. Moody, A. C. Hargrove, H. P. Walker, G. A. Searcy, W. R. Dodson, J. T. Searcy, T. N. Hays, Wm. G. Coch-

rane, J. Collier Foster, S. T. Palmer, J. T. Garner, Wm. Hester, A. Hill, Jas. R. Maxwell, A. Toxey, S. M. Cowden, Jas. White, S. F. Nunnelee, E. A. Smith, H. Harding.

*Tuscumbia*—Guido Luddeman, J. W. Cooper.

*Talladega*—W. H. Skaggs.

*Uniontown*—T. G. Fowler, E. W. Booker, P. H. Pitts, Jr., J. M. Phillips, J. B. Christian, L. T. Bradfield, J. G. Chisholm.

*Wetumpka*—Thos. Williams, O. Kyle.

*Washington, D. C.*—L. J. Dupre.

Col. E. L. CORTHELL, of New York, Chief Engineer of the Tehauntepec Ship Railway, and representative of Col. James B. Eads, was called upon to address the Convention. After displaying a large map of the world, Col. Corthell explained in a forcible manner the great advantages of the proposed ship railway to the United States, and especially to the Gulf States.

The Convention then adjourned to 7 o'clock P. M.

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## EVENING SESSION.

The Convention was called to order by the President.

Mr. SKAGGS, of Talladega, moved that a committee of three be appointed to make a report expressing the sense of this Convention as to the Tehuantepec Ship Railway. The motion was carried and the committee appointed, as follows: W. H. Skaggs, R. H. Pearson and J. T. Harrison.

The following report was made from the Committee on Mineral Resources of Alabama by Gen. JOSEPH W. BURKE, Chairman:

## MINERAL RESOURCES OF ALABAMA.

In the short time allotted the Committee on the Mineral Resources of the State, it is found impossible to do justice to so vast a subject, and this report must necessarily be brief and superficial.

### COAL, IRON AND OTHER MINERALS.

Mr. McCullough, an English writer of the highest authority, speaking of the value of coal as an element of English prosperity, says: "Our coal mines are the principal source and foundation of our manufacturing and commercial prosperity, and no Nation, however favorably situated in other respects, not plentifully supplied with this mineral, need hope to rival those that are. Our coal mines have conferred a thousand times more real advantages on us than we have derived from the conquest of the Mogul Empire, or than we should have reaped from the dominions of Mexico and Peru."

Chevalier (another eminent writer on statistics) in 1850, speaking of England, estimated, even at that date, that coal had given her a propelling force equal to 10,000,000 of horses and 60,000,000 of men.

Eubanks, also about the same date, estimated that coal, with the power of steam, had given England a productive power equal to the labor of 400,000,000 of men, with, at that time, not more than 1,000,000 persons superintending the machines (many of whom were boys and girls of twelve to fifteen years of age); yet each, by means of this mineral, was invested with a giant's power equal to the physical energies of 400 men, or one-twenty-fifth part of her then population exercised a power equal to the physical exertions of one-half the grown inhabitants of the globe.

A recent writer in France, M. Menier, says: "If we should attempt to spin by hand all the cotton which England manufactures in a year by machines carrying 1,000 spindles each, it would require 91,000,000 men, or the total population of France, Austria and Russia combined."

These authorities are alluded to, since the development of the coal and iron industries of Alabama is now admitted to be one of the greatest and most substantial bases of our new-born commercial prosperity. It is eminently proper, then, in this Convention, called to devise a plan by which the great water-courses running

up from tide water to our unrivaled coal fields may be improved, that a brief sketch of those fields should be given.

The coal area of the United States is estimated at 192,000 square miles. Of this large body, the Alabama coal fields contain 5,380 square miles; the Warrior, 5,000; the Cahawba, 230; and the Coosa 150 square miles.

These divisions take their names from the respective rivers—Warrior, Cahawba, and Coosa—which flow through them. From these streams branch out in all directions innumerable creeks, subdividing the coal measures, and affording, especially in the case of the Warrior, many miles of deep water nine months in the year, thus enabling the coal to be mined far up in the interior and floated to the main stream. Human skill could not have devised a more perfect system of internal canals, or auxiliary water-courses, than nature has provided on the Warrior.

Branching off in all directions, those creeks cut their way through the measures, and, in many cases, flow over solid beds of coal. During the summer months this river is not navigable above Tuscaloosa. In fact, it is almost at the very verge of the coal measures in Tuscaloosa that the obstructions to navigation commence, caused by the structure of the coal measures themselves.

### THE WARRIOR COAL FIELD.

This magnificent deposit of coal takes its name from the Warrior River, which, finding its source in the mountainous country bordering the coal measures of the State of Alabama on the north, runs directly through them, flowing into the Tombigbee River at Demopolis, Alabama, and thence onward into the Alabama River and the Gulf of Mexico, at Mobile, a distance of a little over three hundred and fifty miles.

For thirty years the hardy farmers, living amidst the mountains of the Warrior region, unskilled in the art of mining, literally quarried from the bed of the Warrior, and its tributary streams, coal of the finest quality, and, loading it in rudely constructed barges, braved the perils of the rapids and shoals and landed it in Mobile. Here the universal testimony is that, for domestic and gas purposes, it was preferable to the foreign coal.

The construction of railroads, although forty miles distant, the precarious nature of the navigation and the decline in the price of coal, caused a total suspension of the business of boating, or,

as it was termed, rafting coal, on the Warrior. On the eastern edge of the great field the development has been phenomenal within the space of ten years.

Twelve years ago the total coal production amounted to but 10,000 tons. In 1880 the output increased to 600,000 tons; in 1882, to 1,100,000 tons; in 1884, to 1,500,000 tons; and it is believed that the product of 1885 will not be less than 2,000,000 tons.

For the same period the production of pig iron increased from 60,000 to 600,000 tons. This unparalleled industrial advancement was mainly made possible by the construction of a single line of railway, managed with sagacity and the very personification of enterprise. To the construction of the Louisville & Nashville Railroad is this magnificent coal field chiefly indebted for its wonderful development, its thriving mining towns, its populous agricultural colonies, and the City of Birmingham. And yet this line but skirts the very verge of the Warrior field on the east. The Alabama Great Southern Railway runs through its southern border, and the Georgia Pacific Railway, built to its western and eastern boundaries, is located centrally through the basin over a gap of forty miles. The coal of the Locust Fork, or eastern part of the field, is renowned for its valuable qualities for cokeing, steam, gas, and forge purposes. The great Pratt Seam furnishes the greater body of the coke which is used by the furnaces in Birmingham.

The Warrior Seam furnishes the very finest steam coal; the Newcastle, gas coal of an excellent quality. In addition to these mines are the Jefferson and the Black Creek Seams. The Locust, or Little Warrior River, and its tributaries, penetrates all those seams. On the Mulberry Branch of the Big Warrior the coal changes its character entirely. Here it is hard, compact, lustrous, breaking into cubes, clean and not affected by the weather. It is in this part of the field that occurs the cannel coal spoken of by Professor Tuomey, State Geologist (1865):

"This, of all the coal in the State, will best bear transportation on account of its superior hardness," said this distinguished scholar.

Along the banks of the river, in the counties of Tuscaloosa and Walker, the coal outcrops for miles, and may be loaded in barges at the very mine entrance. Dipping toward the river the seams drain into it, as the coal in many places has an elevation of but three degrees, just sufficient for drainage. The seams already

discovered, which may be mined with profit and transported by water, are five in number, the smallest seam being 3 feet 2 inches, and the largest 8 feet 4 inches.

In many places three of those seams may be found superimposed on each other, and visible to the eye on the river bank, two above the reach of high water. It is this part of the great Warrior Basin that is most accessible by water. In it may be found all classes of bituminous coals, and it is thought to be the only part of the field in which cannel coal has been discovered. Its mineral wonders are almost incredible. "Notwithstanding the definite character and value of the information presented here, no one feels more sensibly than I do how very inadequately it represents this magnificent formation," wrote Professor Tuomey in the Geological Report of Alabama in 1850. Its variety of coals, the ease and cheapness with which they may be mined, their great value for commercial purposes, and the convenience of the mines to the Gulf of Mexico, render it a National reproach that those magnificent deposits should be closed by law to human enterprise, which is actually the case.

### THE CAHAWBA FIELD.

The Cahawba Coal Field has an area of about 230 square miles, and lies in the counties of Bibb, Shelby, and Jefferson. Its general direction is from north-east to south-west. It is drained by the Cahawba River.

The field is now being worked at the following points: At Briarfield and Blocton, in Bibb County; Helena and Aldrich, in Shelby County, and Henry-Ellen, in Jefferson County.

The mines at Briarfield and Aldrich are on the East Tennessee, Virginia & Georgia Railroad; at Blocton, on the Alabama Great Southern; at Helena, on the Louisville & Nashville; at Henry-Ellen, on the Georgia Pacific, or on branches from these roads.

There are now seven or eight seams being worked in the field, varying in thickness from three to seven feet; and there are several more that can be worked advantageously. Almost the entire area of the field is underlaid with workable seams.

The mines in operation find a demand for all that they can mine.

Mr. Richard P. Rothwell, the eminent mining engineer, after a thorough examination of the coals of the Cahawba Field, says:

"The Cahawba coals are of a remarkably fine quality, being chiefly distinguished for their dryness, small amount of ash and large amount of fixed carbon. Some of the coals make an excellent coke, suitable for blast furnace use, and, as some of them are dry-burning coals that do not coke, they would probably work raw in the furnace.

The coals are also distinguished for their hardness, freedom from sulphur and never-slacking quality.

For steam, gas, and domestic use, they rank high in the markets, and are sold largely in Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas.

### THE COOSA FIELD.

The Coosa Field has an area of 150 miles, and is chiefly situated in St. Clair, Calhoun, and Etowah Counties.

Until a very recent date this field was entirely undeveloped. The construction of the East and West Alabama and the Georgia Pacific Railroads through it has brought it into more favorable notice; and the Government improvements on the Coosa River, now in progress below Greensport, in St. Clair County, Alabama, will cause it to take an important position as a very potent factor in the industrial development of Northern Georgia and North Alabama.

The seams of coal in this field are from three feet to five feet in thickness, and the product is justly regarded as excellent for steam purposes.

Of all the coals in the State, that of the Coosa is highest in carbon and lowest in combined volatile matter, and, should it prove successful as a furnace fuel, this part of the State will become a very important iron producing center, iron ores of rare quality being found in abundance side by side with the best limestone.

There is one remarkable fact connected with the Alabama coal fields, which, in relation to their geographical location, gives them enormous advantages over that of any other bodies of coal in America.

England is enabled to supply the world with cheap coal, owing to the fact of the location of her principal mines near tide water.

The Alabama coal fields are the only great body of coal on the Atlantic Coast of America so situated as to enable the miner to load his coal-barge on the river banks of the Warrior, Cahawba,

and Coosa Rivers, and float them to the tide, the physical obstacles to their progress being, of course, first removed.

It may be said that the same may be accomplished by the way of Pittsburgh and the Ohio and Mississippi Rivers; but whilst this is a physical fact, the great distance of Pittsburgh from the Gulf of Mexico, the vicissitudes of climate—frost in the winter and heat in the summer—with low water, make this practically nugatory, as Pittsburgh has never yet been able to export coal out of New Orleans.

The opening of the Warrior, Coosa, and Cahawba Rivers would increase the coal export trade of the United States 3,000,000 tons, and leave all parts of the Gulf independent of Great Britain.

## OUR IRON INDUSTRIES.

"Unless all evidence and calculation are at fault, the iron and coal regions of Alabama, within range of cheap production, are practically inexhaustible," says a distinguished writer of this State. The marvelous growth of the iron industry in Alabama is almost equal to that of coal. At first her valuable ores were reduced by charcoal, making iron of quality equal to the best product of Sweden.

After the discovery of cokeing coal in the vicinity of Birmingham, a remarkable impetus was given this industry, which has made such great progress that it is estimated that the manufactured products of iron in Birmingham alone amount to $20,000 per diem. The cheapness with which iron may be made in Alabama is owing to the fact that the coal, ore, and fluxing material are found in many places within sight of the furnace stack. The ores are rich in iron, easily mined, and found in the most luxuriant abundance. The Red Mountain, from which Birmingham draws the great supply of her ores, takes its name from its magnificient veins of red fossiliferous ores, and is literally a mountain of iron, extending from Bibb County, Alabama, to the Georgia line, a distance of over one hundred and twenty-five miles. On the Louisville & Nashville and Alabama Great Southern Railroads, and the Mineral Railroad of Birmingham, the brown hematite, or limonite, ores exist in great abundance. It is from these great mineral deposits that Birmingham draws her wealth, and her right to the appellation of "The Magic City."

On the East Tennessee, Virginia & Georgia Railroad the iron industry is in a healthful and progressive condition, and on this great line of railroad have sprung up towns and villages from its establishment. The City of Anniston is a notable example of this, increasing in five years from a small village to a large and prosperous town. On this line of railway there are in Alabama ten furnaces renowned for the character of their product, making daily an average of four hundred tons of pig iron, of a very excellent quality, and used in the manufacture of car-wheels, bar-iron, and other branches of iron manufacture where "pig" of the best character is desired, and Shelby, Anniston, Briarfield, and Tecumseh high-grade irons are known all over the country.

It is a fact worth noting that during the recent prostration in the iron trade, with its steady and constantly increasing depression since 1880, but one furnace in Alabama suspended operations, and much of our iron found its way into the great markets of the East, being sold there, after having been hauled 800 miles, one dollar a ton lower than Pennsylvania iron.

The matter of cheap transportation affects our iron products equally with our coal; and when this problem is solved, Alabama will lead the markets of the world in the cheapness and excellence of both these commodities.

J. W. BURKE, *Chairman.*

On motion of Gen. S. A. M. WOOD, the Committee on Permanent Organization was instructed to report a plan for the carrying out of the objects of this Convention.

The Convention adjourned until Wednesday morning at 10 o'clock.

# SECOND DAY.

## MORNING SESSION.

The Convention met pursuant to adjournment. President TOULMIN in the chair.

Judge W. B. WOOD, of Lauderdale County, having been called away, the Hon. C. H. Patton was appointed to fill his place on the Committee on Permanent Organization.

The following letter from Senator JOHN T. MORGAN to the Convention was then read by the Hon. John M. Martin, of Tuscaloosa:

*To the President of the Internal Improvement Convention at Tuscaloosa:*

DEAR SIR—I am prevented by the state of health of a member of my family from attending the Convention (to which I have the honor of an invitation) to assemble at Tuscaloosa on the 17th inst.

The meeting will be of importance to the people of Alabama, and I hope it will result in strengthening their confidence in the great destiny that seems to await us as an agricultural, manufacturing, and commercial State.

Nature has placed us in an advanced position with respect to three great industries—cotton, iron, and lumber; and has provided us with an excellent sea-port; with rivers that are navigable, reaching across the State from east to west, through the northern part of the State; and rivers that pass through the mineral belt, from the eastern to the western boundary of the State, and concenter in the Bay of Mobile.

Such a combination of industrial and commercial resources,

with such natural facilities for transportation, is not found elsewhere in the world. They create in our favor such economic advantages as to make Alabama a leading State in the great elementary industries of the production of cotton, iron, and lumber, and will soon give us a like advanced position in the manufacture of these staples.

Nature has given to the South the practical monopoly in the production of cotton and yellow pine timber; and the grouping of the ores, fluxes, and fuel for making iron into compact areas, where the haul is short and easy for their assembling at the furnaces, is so remarkably advantageous to iron production that our State has no superior in that industry.

It becomes the duty of this generation, actively, courageously, faithfully and honestly, to unite in their efforts to accept and improve these benefactions of Providence, and to make them bring forth riches for the people and honor to the Commonwealth.

This Convention is one of the essential movements in this direction. I applaud its spirit and the beneficent purposes for which it has met. I regret more than I can express the necessity which detains me from its deliberations. I have requested my friend, Hon. John M. Martin, to lay this letter before the Convention, considering it my duty to make a response to the invitation of your Committee to participate in the meeting.

In stating my views as to the powers of Congress and the constitutional foundations on which they rest, I do not assume that I, alone, am right; and, finding myself in harmony of action with some who differ with me in opinion as to the limitations on the powers of Congress, there is no occasion for any of us to relax our efforts to benefit the country because of such differences. My idea of the proper system of river improvement in Alabama has been, first, to gain an easy entrance for ships up to the wharves at Mobile, so as to facilitate the commerce with the outer world that our rivers and railroads can supply in such wonderful richness and abundance.

That point has been, in effect, secured, and the future appropriations needed to widen and deepen the channel are as certain as they can be for any public works in any part of the Union.

We have seventeen feet of water in a straight and safe channel, extending out to the sea, that will stand with a permanency equal to that of the banks of a river. The only open question is: How deep and how wide shall the channel be made beyond what it is now?

Coal, iron, cotton, and lumber will draw the ships to the port, and no trouble need be apprehended that all the coast States, at least, will so far consult their own interests as to aid us in making the channel of sufficient depth and width to accommodate the largest ships that they will want to load with our exports.

So much having been done, and the future being so secure, it is time that we had gone earnestly to work in providing cheap and abundant transportation to the Bay of Mobile for our productions.

In two years' time the Muscle Shoals Canal will be finished, and that will relieve Alabama from the annual charge for the money required for that work.

This charge has delayed other works in Alabama by cutting down the appropriations that were fairly due to such improvements, because nearly the whole sum absorbed by the Muscle Shoals Canal has been considered in Congress as an Alabama appropriation.

In fact, Chattanooga, Knoxville, Memphis, St. Louis, Louisville, Cincinnati, and New Orleans are far more interested in the Muscle Shoals Canal than any town in Alabama can be. The next important works to facilitate commerce between Alabama and the outside world are, in my opinion, the opening of the Coosa and of the Warrior Rivers, so as to connect the navigable waters below the obstructions in each with the navigable waters above the shoals.

These works should progress simultaneously, as they are both directed to the same great end of supplying the commodities of commerce to the world through the Port of Mobile.

The Bigbee, Cahawba, and Tallapoosa Rivers are valuable accessories to this system of navigation and commercial transit, and are properly included in it.

I will not now discuss the question of the improvement of other rivers in Alabama that are not connected with this system of navigable waters.

I do not know that any question affecting them will come before this Convention.

As something has been said in the public journals of Alabama as to the building of canals to connect rivers and lakes with each other, over routes that are not the natural channels of navigable waters, I deem it my duty to briefly define what I believe to be the limit of the powers of Congress in such matters.

There is a limit to the powers of Congress, far inside of a boundless discretion, in appropriating money for public works. Congress can not expend money for public works, even if they are for the general welfare, in the same discretionary way that it may for the public defense against an enemy.

Discretion is not the boundary of such powers in the Constitution. The purpose must be the general welfare; it must relate to some specific duty or right of the Federal Government, and the improvement must be on property that is under the control of the Government. These are all constitutional restrictions on the right of Congress to improve rivers and harbors with the use of public money. I do not deny the power of Congress to improve the navigation of rivers and harbors, either from the "general welfare" clause, or from the power to regulate commerce with foreign countries, or between the States.

The "general welfare" clause is not a grant of power to Congress. On the contrary, it is a restraint on the power of Congress to tax the people. The power "to regulate commerce *between the States*" does not give to Congress the right to regulate commerce *within a State.* If this is not too plain for argument, it is, at least, too well settled by the Supreme Court to be denied. If Congress had no power to improve the Warrior River, other than the power "to regulate commerce between the States," nothing could be done by Congress to improve it, as that river is entirely within the limits of the State.

Then, whence does the power to improve a navigable river come? I answer, it comes from the control that each State has granted, or conceded, to the United States over all the navigable waters within her borders. I do not mean the title to the banks, or to the beds beneath the navigable waters, or to the fisheries, or other easement or privilege in the waters, but the free right of navigation to the people of all the United States alike, and to the Government for any public purpose.

Speaking on this subject, Chief Justice Waite, in McCready vs. Virginia, 4 Otto, 394, says: "The title (of the State) thus held is subject to the paramount right of navigation, the regulation of which, in respect to foreign and interstate commerce, has been granted to the United States."

In Mobile vs. Kimball, 102 U. S. Rep., the Supreme Court says: "The improvement of harbors, bays and navigable rivers within the States falls within the last category of cases. The control of

Congress over them is to secure freedom in their navigation, so far as that is essential to their commercial power." Each of the States admitted into the Union, after the adoption of the Constitution, made a distinct cession to the United States of the free right to navigate its waters.

This was done in order to make the States equal and to secure to the people of each State the privilege and immunities of citizens in the several States. The right to navigate the Sacramento is as free to a citizen of Alabama as the right to navigate the Warrior is to a citizen of California. The right is held by a cession of each State to the United States for the benefit of all the people. But this right relates to navigable waters, and not to rights of way for railroads or canals. The United States thus holding and controlling the public use of the navigable waters within a State, has, necessarily, the correlative right to provide for their safe navigation as channels of commerce, or for any other public purpose. The United States has the right to improve any property that it has the right to control, whether its title is absolute or qualified. The custom-house in Mobile is an illustration of the rightful exercise of this power to improve the property of the United States.

Talladega Creek, tributary to the Coosa River, is not a navigable stream, and the Government has so declared by running the land survey across it, and by selling its waters and its bed to private owners.

The Coosa River is a navigable stream, although no vessel can navigate it for many miles above and below the mouth of Talladega Creek. The Government has so declared by stopping its land surveys on the banks of the Coosa, thus dedicating that river to the people, for the purpose of navigation, forever.

The Government thus reserved the control of this river for the purpose of navigation, and assumed this corresponding duty of removing the obstructions to navigation, so as to make it a useful channel of commerce.

The law is now settled, that the admiralty jurisdiction of the United States extends to such waters, to the exclusion of any similar jurisdiction, on the part of the State, showing, in this and in other ways, the jurisdiction and the responsibility of the United States for the free and convenient navigation of waters thus placed under their control by the action of the States.

It follows, from these facts and principles, that Congress may

appropriate money to clean out obstructions to navigation in any stream in Alabama, where it has stopped its land surveys on the shores. Such streams are dedicated to free navigation by the act of the Government, and the people of Maine, as much as the people of Alabama, have the right to say whether Congress shall or shall not apply money to improve them as channels of commerce.

So I hold that the power of Congress to appropriate money for river improvements is limited by the fact of their dedication to public use as navigable waters.

I do not find that the States have ever conceded to Congress the right to dig canals within their borders to connect streams or lakes that are not in the line of the natural flow of their waters, or to build railroads through their domain, and I do not believe that such power exists. Hence I oppose such projects as the appropriation of public money of the United States to build a canal to connect the Mississippi River with Lake Michigan, between Rock Island and Chicago. There are no navigable waters connecting these points, and there is no "paramount right of navigation" there for the United States to protect or improve.

If we plant our right to the assistance of the United States in improving our navigable waters upon firm and undeniable constitutional grounds, we shall not need to enter into bargains, or combinations, with those who claim like assistance for projects that rest on grounds that are inadmissible or questionable. We stand on a firm foundation of constitutional authority in asking Congress to make reasonable appropriations for opening the navigation of the Coosa and Warrior Rivers. The contributions to the commerce of the country that will reach the Gulf of Mexico through these navigable streams, will repay the expenditure many hundred-fold, in the course of fifty years, to the people at large. Increase of wealth, population and general prosperity, which are the true aims of free government, will, in a little while, prove that no like sum of money was ever expended in works of public improvement in the United States that have yielded greater advantages to the country. I believe firmly in the doctrine that the personal enterprise of the people who occupy a country is worth more in advancing its prosperiiy than any amount of money that can be bestowed upon it as a gratuity. No country can thrive whose people lack faith in its prosperity and self-reliance to develop it.

But the Coosa and Warrior Rivers are public property. They can not be relegated to private ownership, as railroads are held in the hands of stockholders. Their dedication to public uses is a final and irrevocable act, in which the State made the concession and the United States accepted the trust. One man has as much right to navigate them as another. They can not be conveyed or condemned into private ownerehip. If that could be done, the monopoly of their navigation would make them the best property of the kind on this hemisphere.

Can it be said to be right or just that the Government of the United States should permit these rivers to remain closed to navigation while private enterprise is forbidden to attempt to open them?

Men and capital could be readily found to open these channels, through which incalculable wealth will flow out to the Gulf of Mexico, if the ownership and control of the navigation could be confined to a private company. Either line of navigation, from the mineral region to Mobile, would be at least as valuable as a railroad for the whole distance, and that of the Coosa would cost $1,800,000 and of the Warrior $500,000.

It is very obvious that the monopoly of this transportation from our unequaled mineral and timber lands would at once command the capital to open the navigation of these rivers. But this can not be; and it remains as a plain duty of Congress to the people of the United States to do this great work.

Our railroad system is incomplete. A great trunk line along the western water-shed of the Alabama River, to correspond with and balance up that already completed to the east of that river, is a commercial necessity that private enterprise will soon meet.

To prevent that line, when it is built, from monopolizing the transportation of the vast amount of traffic that our mineral regions must send to the Gulf, we shall need the navigation of the Coosa and the Warrior as competitors with the railroads.

There need be no fear that they will not all have full employment. Our trade with Central and South America, added to that of the dense populations that will soon flood in upon our inviting country, will throng the Gulf of Mexico with fleets of ships more numerous than those that plough the waters of the Mediterranean Sea. Besides, a trans-isthmian canal is now as certain of construction within ten years' time as the Canadian Pacific Railroad was ten years ago.

The world has determined to have a canal, and I earnestly hope that the United States will soon determine to give one to them. But, whether we build it or not, it will be constructed. Whether it be through Panama, Nicaraugua or Tehuantepec, is not so much a matter of importance to Alabama as the fact that the tide of commerce that it will create will flow along our coast. Through the safe and beautiful Bay of Mobile we will meet the ships on their journey to and from the Atlantic and Pacific with our coal and other supplies. They will be equal in quality to any in the world, exhaustless in quantity, and hauled cheaply to the ships, whether by river or rail, and on a descending grade, so that we shall have no dangerous rival in this profitable trade.

There is, surely, enough in these prospects to excite the liveliest hopes of our people, and to stimulate all who have any power to assist in the speedy completion of these great works. The road is now open before us, and let us follow it with confidence, for the people of the United States, seeing the merits of our work, will cheerfully aid in its accomplishment.

Very respectfully,

JOHN T. MORGAN.

WASHINGTON, November 14, 1885.

The following letter from the Hon. H. A. HERBERT, Representative in Congress from the Second District of Alabama, was read by Secretary W. W. Screws:

*General S. A. M. Wood, Corresponding Secretary:*

SIR—I have the honor to acknowledge receipt of invitation to attend and take part in the deliberations of a River and Harbor Convention called to meet in the City of Tuscaloosa on the 17th inst., and write to express my regrets that I can not be present. I shall be detained here by duties imposed upon me by a special commission created by act of the last Congress.

The Convention can accomplish much good by helping to arouse and to fix attention, both at home and throughout the Union, upon the wonderful material development that must result from an improvement of the natural water-ways of Alabama.

The water-shed that is drained into Mobile Bay is larger than any other east of the Alleghanies; and when we consider its wealth of field, and forest and mine, it is easy to demonstrate

that Alabama's sea-port, Mobile, is richer in natural resources, if trade should go as water runs, than any other port on the Atlantic or the Gulf.

Down the Warrior should go coal to Mobile so cheaply that it would be sold there at less than two dollars per ton. When this is accomplished, and vessels shall have, as they should and will, twenty-two feet of water over the bar at the mouth of the bay, coal—anthracite, though it be—will never sell again at New Orleans for $10, at Kingston for $9.00, at St. Thomas for $9.25, and at Aspinwall for $15—the prices paid by our Government during the past fiscal year. The coal markets of the Gulf of Mexico and of the Caribbean Sea, and largely of South America, will belong to Alabama.

But more than this; with the improvement of the Coosa, the Cahawba and the Warrior, and of Mobile Harbor, there would come to our Queen City of the Gulf not only cheap cotton and wheat and wood, but cheaper iron and cheaper coal than come to any city washed by salt water in America.

Mobile will then necessarily become great in manufactures and in commerce. To accomplish all these results will require the expenditure of large sums of money. The Tennessee, too, in the northern portion of our State, though the great canal around the shoals approaches completion, still needs extensive appropriations. In fact, it would be an easy matter to show before your Convention that the General Government can expend more money judiciously in the waters of Alabama than of any other State in the Union.

Your Convention can be useful in developing that fact, and urging it upon Congress. Yet the practical men assembled there will not lose sight of the fact that many other sections of our Union are sadly in need of river and harbor improvement, and are pressing their claims upon Congress. Theorists may say that appropriations should be aggregated and placed where they would do most good; but such an enactment as this would be, in a river and harbor bill, has never yet been made by a representative legislature. New Jersey would no more vote money to finish all the improvements of rivers in Michigan, and allow her own to wait until Michigan had enough, than would the present representatives of Alabama be content to stop the work on her rivers until the navigable streams in Florida had been developed. The utmost then that can expected is that, when Federal aid is ex-

tended, it shall be given with liberal hand, and that the absolute and relative importance of Alabama's rivers and harbors shall be given due prominence.

For one, I believe the true and practical mode of reducing freights and fares for the people is the improvement of our water ways. Such has been, I think, the belief of all the representatives in Congress from Alabama for years past, and a glance at the amounts appropriated for work on rivers and harbors in the State and outside of it, will show that they have not been idle in this direction.

But, however earnest in the cause Alabama's Congressmen may be, they can be much aided by the labors of such a body of men as will doubtless assemble in your city on the 17th inst.

Wishing them much success in their patriotic undertaking, I have the honor to be, very respectfully, your obedient servant,

HILARY A. HERBERT.

T. A. HAMILTON, Esq., from the Committee on Harbors, made the following report, which, after discussion, was adopted :

## REPORT OF COMMITTEE ON THE IMPROVEMENT OF MOBILE HARBOR.

Your Committee have not had time to prepare a report that would, in their opinion, be at all commensurate with the magnitude and importance of the interests involved in the questions connected with the deepening of the channel in the Harbor of Mobile.

They will, therefore, content themselves with recommending the adoption of the following resolutions, viz.:

1. *Resolved*, It is the sense of this Committee that the present ship channel of Mobile Harbor should be deepened and widened at the earliest practicable period, so as to allow free ingress and egress to and from the wharves of Mobile for the largest sea-going vessels employed in the navigation of the Gulf of Mexico.

2. *Resolved*, That this Convention is impressed with the importance of the great advantages to be derived by the commerce of the country, and the world, from the speedy opening of the channel of the Bay of Mobile, so as to allow vessels of all sizes, frequenting the Gulf of Mexico, to load and unload their whole cargoes at the wharves of Mobile without being

obliged to complete the loading or unloading of any part of their cargoes at a distance from the city.

3. *Resolved*, That we would most earnestly urge it upon the Alabama Senators and Representatives in Congress to use their utmost efforts, at all times, to obtain from the Government of the United States such appropriations as may be requisite, in order to have the channel of the Harbor of Mobile so improved and widened as to allow the free and uninterrupted passage of fully-laden vessels of the largest size in use in the commerce of the Gulf of Mexico to and from the wharves of the City of Mobile.

By order of the Committee.

T. A. HAMILTON, *Chairman.*

## OBSERVATIONS UPON THE IMPROVEMENT OF THE HARBOR OF MOBILE IN THE PAST, PRESENT AND FUTURE.

It seems that up to the year 1857 the Congress of the United States had appropriated $228,838.68 to the improvement of that part of the Harbor of Mobile known as Choctaw Pass and Dog River Bar. The result obtained at these points was a channel ten feet deep and two hundred feet in width through this Pass, and of the same depth, with an unknown width, over or through Dog River Bar.

Nothing further was attempted by the Government toward the improvement of any part of the channel until after the close of the civil war.

In February, 1867, some of the citizens of Mobile County, being greatly interested in the improvement of the Harbor of Mobile, procured the passage of an act of the Legislature of the State, whereby the Commissioners of Revenue of Mobile County were authorized and required to issue bonds of Mobile County to the amount of $1,000,000, to be placed in the hands of a Board, which was created by the same act of the Legislature, and the proceeds of which bonds were to be expended under the direction of that Board in the improvement of the Bay and Harbor of Mobile. (See page 507, Acts of Legislature, 1866–7.)

Under this Act of the Legislature the County of Mobile expended a good deal of money in an attempt to improve the harbor. The precise amount I have been unable to ascertain, but I am led to believe it was somewhere in the neighborhood of $200,000 before the Act of February, 1867, was repealed. (See page 258, Acts Assembly, 1872–3.

While the County of Mobile was thus seeking to improve the harbor, Congress, on the 11th of July, 1870, made another appropriation of $50,000 for the same purpose. (See 16, U. S. Stat. at Large, 226.)

At this time my impression is there was found to be only about nine feet of water in Choctaw Pass. A survey was then made by the Engineering Department of the United States Government, and in 1871 work was commenced with a view to obtaining a channel, two hundred feet wide and thirteen feet deep, from the wharves of the city to deep water in the lower bay.

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|---|---|
| This appropriation of July 11, 1870, of | $50,000 |
| Was followed by another March 3, 1881, of | 50,000 |
| And another June 10, 1872, of | 75,000 |
| And one in March, 1873, for | 100,000 |
| And one in June, 1874, for | 100,000 |
| And another in March, 1875, for | 26,000 |
| Making a total of | $401,000 |

Under these appropriations the work was completed in 1876, giving the proposed channel of 200 feet minimum width and 13 feet depth from the city wharves to deep water.

An effort was then made by parties interested in the further improvement of the harbor to obtain appropriations from Congress, in order that a channel of not less than 200 feet of minimum width and 22 feet in depth might be obtained.

In June, 1878, Congress appropriated $10,000, to be expended in the necessary steps to ascertain whether the channel could be deepened to allow vessels of 22 feet draught of water to pass from the lower anchorage to the city wharves. (20 U. S. Stat. at Large, 154.)

Under this the United States Engineer (Major A. N. Damrell) reported in 1879 that the surveys and tests applied indicated that the proposed channel of 17 feet deep could be obtained at a cost of about $820,000, or one of 21 feet deep at a cost of $1,900,000, and recommended the project of obtaining a channel 21 feet deep, at mean low tide, and with a minimum width of 200 feet.

The question of the proposed improvement was submitted to a Board of Engineers, who sat at New York, and their deliberations resulted in their suggesting either that the dredged channel 13

feet deep, already in existence, should be deepened by dredging to the depth of 17 feet, or that an artificial salt-water canal should be substituted, with a depth of 22 feet.

This Board recommended, at the same time, in order to determine more satisfactorily as to the permanency of a dredged channel 22 feet in depth, that an experimental cut should be made in the bottom of the bay 100 yards long, 100 feet wide and 22 feet deep, and afterward carefully sounded, from time to time, in order to see the effect of time and circumstances upon it.

Upon this the Congress of the United States proceeded to make appropriations toward dredging the 13-foot channel to the depth of 17 feet, and with the minimum width, as before stated, of 200 feet, as follows, viz.:

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|---|---|---|---|
| March 3, 1879 | $100,000. | 20 U. S. Stat. at Large | 370 |
| June 14, 1880 | 125,000. | 21 U. S. Stat. at Large | 181 |
| March 3, 1881 | 100,000. | 21 U. S. Stat. at Large | 470 |
| August 2, 1882 | 125,000. | 22 U. S. Stat. at Large | 194 |
| July 5, 1884 | 200,000. | | |
| Total | $650,000. | | |

In Major Damrell's report to the United States Chief of Engineers, made in the year 1884, he stated that the estimated amount that would then be necessary to complete the proposed channel of 200 feet wide and 17 feet deep, in addition to the amounts previously appropriated by Congress, at its last session, for the completion of this work, but in this we were greatly disappointed, the Congress having passed no River and Harbor Bill at all.

The result is, that the work of improvement has substantially stopped, and we are compelled to wait for another meeting of Congress before anything can be done. Fortunately, however, very substantial results have already been accomplished, although there is room for much improvement still. The present minimum width of the dredged channel is about 140 feet between the tops of the slope on the two sides of the channel. This is the width of the cut for about half the length of the channel. It is somewhat wider at the curves at Dog River and at Fowl River, while at Choctaw Pass it is about 290 feet in width. The minimum depth of the dredged channel is about 16½ feet at mean low tide, while in some places the depth is as much as 21 feet.

In considering, then, the results of these improvements, we find:

*First.*—The change in the appearance of the wharves of Mobile has been very marked since the channel has become such as to allow its use by vessels of any considerable size. Before that time, with very few exceptions, all the vessels of any size which came to the Bay of Mobile had to lie in the lower anchorage at a distance of about 27 miles from the city, while now there are at all times quite a number of heavy draught vessels to be found lying at the wharves.

*Second.*—Before then, the cargoes they brought in and the cotton they carried away had nearly all to be transported to and from the city upon lighters, at an annual cost estimated at not less than $100,000. Not only this, but thereby the cotton and goods, in passing upon and down the bay, were more or less liable to damage from exposure to the weather, and it is fair to suppose that this was a prominent reason for the Liverpool cotton merchants assuming, as they did, that cotton going by way of New Orleans arrived in better order, and so should bring a better price than when they went by way of Mobile.

*Third.*—Before the present improvement in the channel the timber trade of Mobile was comparatively small. It has now grown to be of great importance, and is constantly and largely improving. When timber vessels had to take on their entire cargoes in the lower bay, there was not only the expense of carrying the rafts twenty-seven miles further to get to the shipping, but there was always a great risk of loss from their going adrift, and being in many cases entirely lost. Even now, as these timber vessels are very frequently of heavy draught, it happens that a very large proportion of them, estimated by some as high as ninety per cent. of the whole, have to go down the bay to finish loading.

*Fourth.*—The necessary expenses imposed upon the commerce of the port of Mobile for stevedores, and other such charges connected with the loading and unloading of vessels coming to the port, have been largely reduced in consequence of the parties concerned being thus relieved to a considerable extent of the expense of transportation up and down the bay, and also of their being able to live at their homes in the city.

*Fifth.*—There has been heretofore expended upon the work of deepening the channel to 17 feet the sum of $650,000. It is a fair

calculation that this expenditure has already effected a saving of at least $100,000 a year in cost of lighterage up and down the bay, to say nothing of savings from damage and loss of property by reason of so much of the cotton, timber and other articles being loaded and unloaded directly at the wharf, instead of lightered up and down the bay for a distance of 27 miles to and from the vessels.

*Sixth.*—If we should assume that the only saving that has been effected by the expenditure of this $650,000 on the dredged channel has been the annual amount of $100,000 in the expense of lightering, etc., still it shows an annual saving to the commerce of the port of a trifle over sixteen per cent. upon the whole amount that has been thus far expended upon the improvement.

*Seventh.*—I have no means of accurate ascertainment of the extent of the timber trade of the City of Mobile, but a few days since I saw a statement in the *Mobile Register* in which it was estimated that it now gives constant employment to about three thousand people, and thus furnishes the means of subsistence to about fifteen thousand individuals.

This is, possibly, an overestimate, but still it is apparent that a very large number of individuals are supported by this timber trade.

The present width of the 17-foot channel, however, is not by any means sufficient for the accommodation of the shipping of the port. The result has necessarily been that, as a rule, only one vessel at a time, of any considerable size, can be permitted to be passing through the channel. This, as might naturally be expected, has given rise at times to difficulty and delay, which can only be avoided by increasing the minimum width of the channel to at least 200 feet; and it is evident that this should be done at as early a day as practicable.

But, in order to furnish the proper business facilities to the port of Mobile, the channel should be deepened at least to 23 feet, and with such a width as may be necessary for large vessels to pass up and down without interfering with one another.

The work already done has demonstrated the fact that, at least for a channel of 17 feet depth, the work of dredging can be relied upon, and a channel, when thus procured, can be permanently maintained at a moderate cost. The depth of water upon the outer bar of Mobile Bay is, at mean low tide, about 23 feet, while the surveys and borings heretofore made indicate that a dredged

channel of 23 feet in depth can be maintained as well as one 17 feet from the wharves at Mobile to the outer bar. Moreover, in order to still further test the question, in one place in the course of the dredged channel, and in accordance with the advice of the Board of Engineers, before adverted to, an experimental cut of 300 feet long, 100 feet wide and 22 feet deep was dredged in September, 1882; and in Major Damrell's report of August 3, 1883, he says this "was sounded October 24, 1882, and again on June 7, 1883, an interval of about seven months. A comparison of these soundings showed less depth on the sides and ends of the cut, with about the same average depth along the center, evidently owing to the irregularities of the bottom being removed, and the banks having assumed the natural slope, but showed no filling due to other causes." He goes on to say: "As the material composing the bottom is the same, or of a firmer nature, to cluster No. 31, just south of Fowl River shoals, 16.44 miles from the city, a channel of this depth would no doubt remain open, and it is probable that from this point it would be comparatively permanent, with a width of 400 feet." (See this report in Appendix M, pages 961, 962, to the annual report of U. S. Chief of Engineers for 1883.)

I am satisfied that Major Damrell has since seen no reason to change his views expressed by him in this report. In fact, as I have learned from him within the last few days, his last report to the United States Chief of Engineers (but which I believe is not yet in print) submits a project for continuing the dredging to the depth of 23 feet along the whole line of the present channel, so as to give a minimum width of about 240 feet midway of the slopes, and which I suppose would be equivalent to about 280 feet at the top and 200 feet at the bottom of the cut.

I understand the estimated additional cost of procuring this increased width and depth, after the channel of 200 feet wide and 17 feet deep shall have been completed, will be about $1,500,000. Add to this the amount still required to be expended in order to complete the proposed depth to 17 feet, say $240,000, and it will make the sum total yet to be expended, in order to furnish a dredged channel 280 feet wide at the top and 23 feet deep from the wharves at Mobile to the deep water of the Gulf of Mexico, about $1,740,000.

The necessity for this increased depth of water in the channel is already upon us. We have seen that there has been a wonder-

ful increase in the timber trade of Mobile, in consequence of the improvement in the channel which has already taken place, but this channel is not by any means sufficient, even at this time, to meet the requirements of the commerce of the port, while these demands are likely to increase almost from day to day.

The greater part of the vessels now coming to the Port of Mobile for cargoes of timber and of cotton, will draw, when loaded, considerably more than the depth of water in a 17-foot channel, some of them drawing as much as 18 to 20 feet, and even more. The result of necessity is that all such vessels are compelled to go down the bay to complete their loading, thereby encountering not only great extra expense and delay, but also exposing them at times to the risk of heavy loss from damage and injury to the property to be transported.

The improvement of the Harbor of Mobile is not a matter which concerns Mobile alone. If we take a map and look at the position of the Bay of Mobile, we find it is the outlet for a most magnificent system of water-courses, which are well able to contribute enormous wealth to the commerce of the country and of the world.

The Alabama, with its four hundred miles of navigable length, may be regarded as but the continuation of the Coosa River, whose additional three hundred miles of navigation, when regularly opened, will give a continuous river navigation in the interior of the country, a distance of seven hundred miles or more from the Gulf of Mexico to the City of Rome, Georgia.

Looking then in another direction, we find the Tombigbee and Black Warrior Rivers also extending their arms far up into the interior of the States of Alabama and Mississippi.

For many years large quanties of cotton have been transported from the interior of Alabama and Mississippi to the Port of Mobile, which should naturally be transported by sea-going vessels from the wharves of that city. Since the work upon the channel has been in progress, a large and constantly increasing timber trade has sprung up. This is still in its infancy, while there are vast forests readily accessible, which as yet have scarcely been touched, and which are capable of supplying an enormous timber trade for many years to come.

In the last few years it seems to have become more than ever an acknowledged fact that coal and iron are two of the principal factors in building up the wealth and prosperity of any people.

In these two articles, and in the cheapness of their production, Alabama has been highly favored. It seems now to be admitted that iron can be produced at lower figures in the interior of Alabama, and perhaps in Tennessee, than any where else in the United States. The result is now beginning to appear in the quantities of this mineral which are already being produced in Alabama, while it is fair to suppose that no long time will elapse before its export will be called for at least to other places on this continent through the Port of Mobile.

While this is so in regard to the iron products of Alabama, the future of the Alabama coal is still more certain. It is well ascertained that the quantity is almost boundless. The Coosa Coal Fields cover an area of about a hundred square miles, the Cahawba Coal Fields about two hundred and thirty, and the Warrior Coal Fields the enormous extent of five thousand square miles. If we stop for a moment to contemplate these last, we find the Black Warrior River runs through them, and that at a cost of perhaps the comparatively insignificant sum of two hundred thousand dollars expended upon it, this river can be so improved that barges can readily transport coal upon its bosom to Mobile from mines in its immediate vicinity, at an estimated cost of not exceeding fifty cents a ton. The coal can be placed in the barges at a cost of not exceeding $1.25 per ton, making the cost in Mobile Bay to amount to about $1.75 per ton. So also, I suppose, the Cahawba and Coosa Rivers can be improved so that coal from the coal fields in their neighborhood may be furnished at about the same cost as from the Warrior Coal Fields.

The quantity of coal that is used in the counties bordering on the Gulf of Mexico and the Caribbean Sea, to say nothing of South America, is very large, and at these prices, the Alabama coal might reasonably be expected to drive all other coals out of these markets. I have not the data upon which to furnish any estimate of the precise quantity that would be needed to supply the demand, but it is evident that it would be very large. Heretofore but little coal has been exported from Mobile. One reason of this has been that the demand for consumption in the neighborhood of the mines has pretty well kept up with the supply, leaving but little for exportation; and another reason is the cost of transportation to the sea-board; but this can not always continue to be the case. The growth of the output from the Alabama coal mines has been very rapid in the last few years, and

something like the same rapid rate of growth may reasonably be expected in the future.

My understanding is, that the quantity of coal mined in Alabama in 1872 was only about 10,000 tons. In 1879 this had increased to about 290,000 tons; in 1880, to 400,000 tons; while I am told that, in the last year, it reached over 1,000,000 tons. This is only similar to what has been seen in other cases. Thus, when the Delaware and Hudson Canal was first completed, it had a coal trade for the

| | |
|---|---|
| First year (1829) of only..... | 7,000 tons. |
| The next year it was..... | 42,000 tons. |
| In 1840 it was..... | 148,000 tons. |
| In 1850 it was..... | 432,000 tons. |
| In 1860 it was..... | 499,000 tons. |
| In 1870 it was..... | 2,300,000 tons. |

I apprehend it would be difficult to overestimate the rapidity with which the coal trade of Alabama will increase, if only the Black Warrior River and the Harbor of Mobile should be opened wide to the commerce of the world.

Only a few years ago (since the close of the civil war) Alabama coal was selling in Mobile at $12 a ton, while now it is offered by the car-load, for export trade, at $3.15 for the ton of 2,240 pounds. It was recently estimated, by General Joseph W. Burke, the then Collector of Customs at the Port of Mobile, and who is now here as a member of this Convention, that, by reason of the reduction of the cost of Alabama coal, the United States Government was saved, in the cost of coal consumed by the few United States vessels coaling at Mobile, about $70,000 in the space of five years, or at the rate of about $14,000 a year. This coal now costs, for purposes other than exportation, about $3.50 per ton, by the car-load; but it is estimated that as soon as the rivers shall be improved, so as to afford easy water transportation from the mines to the sea-board, the cost of this coal at Mobile can be reduced, as above stated, to about $1.75 per ton.

It is estimated that the improvement of the rivers so as to allow easy water transportation for coal from the mines to Mobile, and such an improvement of the channel from the wharves of Mobile to the deep water on the outer bar of Mobile Bay, as to allow vessels of heavy draught to come up to the wharves, Mobile

will become one of the cheapest coal markets in the United States. It certainly will furnish cheap coal in the Gulf of Mexico, so that when we remember the importance of cheap coal readily accessible on the coast of the Gulf of Mexico to the commerce of the world, and also the importance of its being easily accessible to the navy of the United States, it is not difficult to see the importance of improving the water-ways in the interior of the State, and also of opening the channel of the Bay of Mobile as early as possible, so that vessels of heavy draught can readily proceed to the wharves of Mobile for coaling and other purposes.

It is not long since the Cumberland coal was sold at Baltimore, and other points on the Atlantic Coast, at four dollars for the ton of 2,240 pounds; but, owing to competition in various ways, I understand the price has recently been reduced at the point of export to about two dollars for the long ton. As we have already seen, the lowest rate at which the Alabama coal can now be sold, even for exportation by the car load, is $3.15 for the ton of 2,240 pounds. Of course, this gives to the shippers of the Cumberland coal for ports on the Gulf of Mexico, the Caribbean Sea and the South American ports, a very great advantage over the Alabama coal.

If, now, the channel of Mobile Bay were deepened to twenty-three feet, and widened to a proper extent, and then the rivers in the interior of the State should be so improved as to allow coal to be water-borne from the mines to the wharves at Mobile, the cost of Alabama coal at Mobile could be reduced to as low a figure, or, perhaps, a lower one than that at which the Cumberland coal is held at Atlantic ports, and the quantity which could be furnished would be equal to any demand that could be made for it.

Mobile is believed to be already the cheapest of the Gulf ports: that is to say, vessels can now enter the Port of Mobile and discharge and receive their cargoes at less expense than at any other of the Gulf ports; but the advantages of the port will be very greatly increased by having the channel so deepened that any vessel drawing twenty-three feet, or less, can proceed at once to the wharves of the city, there to discharge her cargo and reload without encountering the delays, expense, and other troubles attendant upon receiving and discharging the whole or a part of her cargo at a distance from the city.

It is possible the future may show it would have been better, in the long run, if a different mode of improving the channel had

been resorted to from that which was adopted. When we remember that after the junction of the Alabama and Tombigbee Rivers, about fifty miles above the city, the united stream, which is then known as the Mobile River, has an average width of 1,050 feet, and a depth of about 39.8 feet, until a short distance above the city, the water which had hitherto confined itself to one channel, spreads out into several outlets, such as the Mobile, the Spanish and the Tensaw Rivers, and so flows on through the Bay of Mobile for some thirty miles, when it passes into the Gulf of Mexico. It is not difficult to suppose that the engineering skill of the United States could, without much difficulty, have continued something like the same single channel of 1,050 feet wide and 40 feet deep, until it emptied itself into the Gulf of Mexico.

In fact, something like this was one of the projects submitted to the Board of Engineers which sat in New York in the winter of 1879–80; but it was determined, in view of the then existing circumstances and the commerce of the port as it then stood, that it would be better, for the time at least, to rely upon dredging out the channel then already in existence to the depth of 17 feet and a width of 200 feet, at the same time using certain tests to determine the practicability and propriety of afterward increasing the depth of the channel from 17 to 23 feet.

As we have already seen, the tests resorted to in order to determine the practicability of dredging to the depth of 23 feet have resulted in satisfying the engineer officer in charge of the entire practicability of dredging out and maintaining a permanent channel of 23 feet in depth, and he has accordingly submitted to the United States Chief of Engineers a project for proceeding immediately to deepen the dredged channel to that extent, and widening it to say 280 feet between the tops of the slopes.

His estimate is that the cost of completing the present project of a channel 17 feet deep and 200 feet wide will be about $240,000, and the additional cost of increasing the depth to 23 feet, and the width between the tops of slopes to 280 feet, will be about $1,500,000, making a total of additional appropriations of about $1,740,000 needed for the work.

As I understand it, it is always the case that the larger the appropriation for work of this sort, within certain limits, the cheaper will be the ultimate cost of the work and the quicker will the desired result be accomplished. Small appropriations delay the ultimate completion and add greatly to the expense,

while large appropriations cheapen the cost and hasten the completion of the work.

In the case of the channel at Mobile, it is, perhaps, specially important that work should be commenced as early as practicable, with the view of obtaining the 23-foot channel, and also that the appropriations should be large. As I understand it, it is highly important that the depth of 23 feet be obtained as early as possible to such an extent as to allow vessels drawing something like that quantity of water to pass up and down the channel. This can be accomplished by the early expenditure of about $500,000, and nothing less than this will bring it about. Until this is done, many of the vessels now coming to the Port of Mobile (perhaps a large majority of them) will be compelled hereafter, as heretofore, to discharge and receive parts of their cargoes while lying in the lower bay and at a distance from the city. When this $500,000 shall have been expended, we must remember, still the work will only have been in part accomplished, and not until the full proposed width and depth of channel has been attained can we hope to see the full benefit of the work.

T. A. HAMILTON.

MOBILE, November 11, 1885.

Mr. T. G. BUSH, Chairman, from the Committee on Permanent Organization, made the following report:

Your Committee respectfully recommend that this Convention appoint the following Committee to memorialize Congress on the subject of the Improvement in the Harbor of Mobile and the Rivers of Alabama:

S. A. M. WOOD, Chairman, Tuscaloosa.
DAVID CLOPTON, Montgomery.
A. O. LANE, Birmingham.
N. H. R. DAWSON, Selma.
J. T. HARRISON, Columbus, Miss.
REUBEN CHAPMAN, Livingston.
WM. H. DENSON, Gadsden.
R. O. PICKETT, Florence.
T. A. HAMILTON, Mobile.

We further recommend that this Convention resolve itself into a permanent organization, to be known as "The Alabama Rivers and Harbor Improvement Association."

That the officers of this Convention shall be the officers of this Association until their successors are elected, and a Treasurer to be selected by the Executive Committee whenever they see proper.

That the Executive Committee shall consist of two from each Congressional District and for the current year as follows:

FIRST DISTRICT.

John C. Webb, Thos. A. Hamilton.

SECOND DISTRICT.

M. L. Moses, Joel D. Murphree.

THIRD DISTRICT.

James B. Mitchell, C. H. Laney.

FOURTH DISTRICT.

Richard C. Jones, Chas. E. Waller.

FIFTH DISTRICT.

Thos. Williams, J. N. Suttle.

SIXTH DISTRICT.

A. C. Hargrove, L. M. Stone.

COLUMBUS, MISS.

David P. Blair.

SEVENTH DISTRICT.

W. B. Fagan, F. W. Bowden.

EIGHTH DISTRICT.

A. H. Moses, J. D. Weeden.

The President of the Association to be *ex-officio* Chairman.

The Executive Committee shall have power to call the Association together at such times and places as they may deem necessary. Fill all vacancies in its membership, and have power to do all such things as may be proper to further the objects of this Association.

Report was adopted.

A telegram from Congressman ALLEN, of Mississippi, authorizing the Columbus delegation to pledge his cordial support to whatever will promote the interests of his constituents, was read to the Convention:

JACKSON, MISS., Nov. 16, 1885.

*To W. M. Snell and Others*—I expected to join your Committee and go to Tuscaloosa, but am detained here by business in Court. I regret it much; pledge my cordial support to whatever will promote your interest.

JNO. M. ALLEN.

Gen. S. A. M. Wood, Chairman, made the following report from the Committee on Water-ways, which was amended by adding a note introduced by Mr. Tanner, of Etowah, and adopted as follows:

Alabama enjoys two great systems of water-ways—the Tennessee, which connects North Alabama with the Mississippi, and that group of rivers which, draining much the largest part of Alabama, with considerable portions of Georgia and Mississippi also, and finding a common outlet into the Gulf through the waters of Mobile Bay, may appropriately be called the Alabama system.

The Tennessee improvement, commenced over fifty years ago, was taken actively in hand by Government in 1868, and has been in progress ever since. Up to this time there has been appropriated for the river below Chattanooga $2,695,500. The estimate for the amount needed for the entire improvement, as planned in 1877, was $4,133,000. This leaves, as needed for the completion of the project, $1,437,500. Of this amount Major King estimated,

in his report for 1884, that $550,000 can be advantageously expended during the fiscal year ending June 30, 1886. The advantages of and commercial necessity for this improvement were fully set forth by the Convention held for this purpose at Chattanooga two years ago, and your Committee, concurring in the action there held, recommend that our delegates in Congress be requested to urge the speedy completion of that work, so that the country may begin to reap some returns from the large sums already expended, and your Committee would also suggest that the quickest returns can be had by completing the small improvements below Florence, while the larger work of the Muscle Canal is in progress.

The Alabama system is composed of eleven rivers, which, if improved, would, together, afford 2,000 miles of navigable waters. These rivers, with their lengths, are as follows:

| | | |
|---|---|---|
| Mobile River | 50 | miles. |
| Tombigbee | 550 | " |
| Old Town Creek | 75 | " |
| Noxubee | 80 | " |
| Sipsey | 185 | " |
| Black Warrior | 232 | " |
| Alabama | 390 | " |
| Coosa | 315 | " |
| Ooustanaula | 108 | " |
| Tallapoosa | 61 | " |
| Cahawba | 111 | " |
| Total | 2,009 | " |

Of the above rivers, before improvements were commenced, there was navigable, at all seasons, a length of about 300 miles; navigable, during the rainy season, 1,190 miles; not navigable at all, 819 miles.

When the proposed improvements shall have been completed, the length of low-water navigation will have been increased to 1,720 miles, and the remaining 289 miles will be navigable during the Winter stage of water.

The area drained by this water-way system is over 40,000 square miles in extent, and it is inhabited by more than 1,000,000 people. These people are engaged mainly in agriculture, but

quite extensively also in manufacturing and mining. The products of each of these industries are designed mainly for distant markets, and from these markets come the bulk of the supplies consumed. Even the food for man and beast comes largely from abroad. Hence this region is specially interested in the cost of transportation, and the margin of profit arising from these industries will depend very much upon the transportation charges. The difference between high charges and low charges may make all the difference between a losing and a remunerative business.

Now the cheapest inland transportation route possible is a navigable river, and thus, on general principles alone, it is evident why the Alabama system of water-ways should be made fully navigable.

But there is another very plain business reason evident in this case. The Government has spent over $1,250,000 in deepening Mobile Harbor, and must probably spend as much more in order to secure the depth desired. Now that the fullest results may be obtained from these expenditures, or, in other words, that the greatest possible dividend may be derived from the investment, the waters emptying into Mobile Bay should be made capable of carrying to it the products of the fields and forests and mines and mills that be along their banks.

The improvement of these streams comes out as a corollary to the improvement of Mobile Harbor. And, on the other hand, if these rivers are improved, the money so expended will give very inadequate results, unless a deep and capacious harbor lies ready to accommodate the business brought to it.

Mobile Harbor and the rivers flowing into it taken together form an important system of water-ways, and it is only by taking them together that this importance is fully brought out. The partial improvements of various portions of this system up to this time have been heretofore urged and undertaken as isolated necessaries.

Their connection with each other, their interdependence, has not been made prominent, if considered at all, consequently they have dragged along under inadequate and intermittent appropriations, taking their chances with mill creeks, bayous and similar streams, whose claims for improvement were looked upon as of merely local importance.

Now, by asking for the improvement of our rivers on the ground that they each are a part of one grand whole, we present

the case in a form that we have good precedent for supposing will command the favorable consideration of Congress. Take the Ohio River for example. This, with its tributaries, forms a transportation route of great commercial value, and its tributaries, because they are a part of that system and together, give it a large part of its importance, have been liberally provided for. Take the Little Kanawha for instance, and we cite that stream because it is about the size of the Warrior below Tuscaloosa, and of similar commercial importance. Its length is 130 miles, the Warrior 140. Its business in 1883 was stated at $775,000, the Warrior, for the same year, $850,000. Now the amount already expended on the Little Kanawha by Government and private corporations together is $369,300, and $55,000 is asked for to complete the improvement making $424,300 in all.

Ten years ago we asked for $153,000 for the Warrior, and have not yet had $100,000. The Great Kanawha, another tributary of the Ohio, important mainly from its coal contribution, amounting in 1883–84 to 650,000 tons, has received $1,738,000, and $1,857,500 more will be needed to complete the improvement.

Upon the Monongahela has been spent $687,000, upon the Alleghany $95,000, with $51,000 more needed; upon the Big Sandy $204,000 spent and $92,000 more needed, upon a commerce of $3,550,000, and so on.

Upon the Ohio itself the Government has spent over $5,000,000, and has now commenced a system of lock and dam navigation, estimated to cost nearly $40,000,000 to complete.

These examples might be greatly extended, but they are sufficient to show that the streams uniting to form a great water-way are liberally dealt with on that account. And the reason is plain: The justification for the cost of improving a great river lies in the volume of business done upon it, and this volume is made up by aggregating the smaller amounts furnished by its tributaries. If these are made more navigable, they supply more business to the main stem, the expense of improving which is thus more fully justified. Greater returns are secured for the sums expended on it. For the above reasons it seems to this Committee that this Convention should present the deepening of Mobile Harbor and the improvement of the rivers that empty into it as one system. The expense of deepening the harbor would be a waste of money, unless the business developed should be commensurate with this expense, and the greatest development is to be looked for from

the improvement of the rivers. The reverse of this principle is also true. The expense of improving the Tombigbee, for instance, finds its justification not only in the increased business of that stream, but in the increase that it will contribute to the business of Mobile Harbor, thus giving a larger return for the expense of deepening it. And so of all the other rivers. By referring to Major Damrell's report for 1884 it will be seen that the deepening of Mobile Harbor was commenced in 1826, and continued at intervals, with appropriations ranging from $10,000 to $50,000, up to 1852, at which time a 10-foot channel had been obtained. From 1870 to 1875 work was continued, and the channel deepened to 13 feet. From 1881 to this time a 17-foot channel has been in progress, and an actual minimum depth of 15½ feet secured. The total amount appropriated has been $1,268,997, and $240,000 is estimated as needed to complete the 17-foot channel.

The improvement of the rivers emptying into Mobile Bay was commenced practically in 1875, and, under small appropriations, has been in progress ever since. The following table shows the amount of appropriations up to this time, and the estimated sums needed to complete the improvements proposed. The figures are taken from the reports of the Chief of Engineers:

| | Appropriated. | Required. |
|---|---|---|
| Tallapoosa | $25,000 | $15,125 |
| Wetumpka to Tallassee | ..... | ..... |
| Coosa, Rome to Greensport | 418,700 | 133,647 |
| Coosa, Greensport to Wetumpka | ..... | 2,649,949 |
| Cahawba | 30,000 | 165,000 |
| Alabama | 130,000 | 99,741 |
| Tombigbee | 167,362 | 75,000 |
| Warrior, below Tuscaloosa | 97,638 | 53,465 |
| Warrior, above Tuscaloosa | 50,000 | 1,150,000 |
| Noxubee | 37,500 | 27,745 |
| Sipsey | ..... | 145,000 |
| Old Town Creek | 3,000 | 7,000 |
| Totals | $959,200 | $4,521,672 |

The improvement of the above named streams are intended for facilitating and extending the ordinary commerce of the riv-

ers. Dividing the improvements intended mainly for coal traffic from those for ordinary traffic, we have, for the latter, appropriated for 1,527 miles of river, $879,200; required, $411,722.

In order to show the necessity for the appropriations to meet the requirements as above given, there should be an exhibit of the existing business, and the results to be derived from the improvements. This can be done only approximately and imperfectly as to existing business, because the records kept by the boards of trade in the river towns and at Mobile show little beyond cotton receipts. In Major Damrell's report for 1883, however, appear itemized statements, compiled from the steamboat books, showing the business for that year upon the Alabama, the Tombigbee and the Warrior. In Chief of Engineer's report for 1879 will also be found an estimate of the business done upon the upper Coosa. From these reports the value of the river commerce is shown to be:

| | |
|---|---|
| For the upper Coosa | $7,000,000 |
| For the Alabama | 5,234,058 |
| For the Tombigbee | 5,112,775 |
| For the Warrior | 853,775 |
| Total | $18,200,608 |

Now, recollecting that the improvements designed for facilitating and extending the above business will increase the length of perennial navigation from 300 miles to 1,200 miles and will add some 300 miles of Winter navigation, the urgency of making the appropriation of $411,000 asked for to complete the improvement will be readily inferred. Especially will the commercial necessity of the case appear when considered in connection with the promised results. It must be remembered that the main business of our river valleys is done by railroads, and that the freight charges are dependent on competition. When the rivers are in boating order freights are low, and *vice versa*.

The effects of the river improvements, when completed, will be to make the rivers and railroads competing lines throughout the year. The case is illustrated in the report on the Tombigbee for 1881. Referring to the Tombigbee and Mobile and Ohio Railroad, the report says: "The average distance between the river and railroad being about twenty or twenty-five miles, they are sub-

stantially competing lines, and whenever the river is navigable for large boats a brisk competition ensues, and freight charges are low. River improvements, then, that will have the effect to make this competition continual, will effect the entire commerce of the Tombigbee Valley, whether the actual transit is made by rail or river. That is to say, the whole business of the Tombigbee Valley with Mobile, amounting, in round numbers, to 270,000 bales of cotton, worth $13,500,000, with return freight probably exceeding $9,000,000 in value, will be benefited by the improvement.

"During the past season (in 1879–80) the rates, with a full stage of water in the river, were from 50 cents to $1.25 per bale. When there was no river competition the rates by railroad were $3.25 per bale. During the low-water season fully one-third of the crop is sent to market at high rates; hence, with the river improved so as to be navigable at all seasons, there might be expected a saving of at least $1.50 per bale on 90,000 bales, amounting to $135,000, with reductions on up freight enough to raise that amount to $150,000.

"This may be regarded as the minimum annual revenue to be derived from the Tombigbee River improvement."

The above extract illustrates sufficiently well the principle upon which the value of the proposed river improvements is to be estimated, which is, that not only the volume of business, that is, or will be actually transacted on the rivers, is to be considered, but the whole amount that might be, for if shippers have the option of river transportation and prefer to use rail, it will be because their ability to use the river will have given them river rates by rail.

It might appear at first sight that the improvement of the rivers by decreasing freight rates would prove detrimental to railroad interests. Such, however, would not probably be the ultimate results. A decrease in transportation is a corresponding increase in the profits of the producer. Increased profits give the ability for increased consumption, and, again, induce increased productions. The whole volume of business swells, so that while the percentage of profit on railroad traffic would be diminished, the amount of that traffic would be so much increased that the net returns upon it would sooner or later be largely in excess of those now received.

There remains now to be considered that portion of the Ala-

bama River improvements designed for the development of a business that does not yet exist: the water carriage of coal and iron. The four rivers, the Sipsey, Upper Warrior, Cahawba and Lower Coosa, upon which these improvements are required, have an aggregate length of 482 miles, and the works proposed will cost, according to the estimates, $4,189,949, of which $80,000 have been appropriated. The question is, will the developed business be commensurate with the expense to be incurred? Now we have already seen, in the case of the Great Kanawha, that a coal business of 650,000 tons was done in 1883–84, that to develop that business to this extent $1,738,000 had been expended, and that a total expenditure of $3,595,000 was proposed. This would undoubtedly be a wise expenditure, even should the business be no further increased, because the commercial importance of this business depends, not upon the market value of the coal, but mainly upon the fact that coal feeds the steam power, without which manufacturing industries would, in many places, cease to exist. The Alabama coal fields already have an output of more than double the amount shipped down the Great Kanawha. With cheap river transportation afforded, there appears no good reason why the Alabama collieries should not send down to Mobile a yearly supply of coal, equal in amount to that sent down the Ohio from Pittsburgh, say 6,000,000 tons. It all depends upon the cost of transportation. What will it cost to deliver coal in Mobile by river? We will briefly consider this question with regard to the Warrior River, selecting that stream as happening to be more convenient for the purpose, and because the Coosa being a larger stream with greater capacity for tows, and the Cahawba being nearer to Mobile, giving shorter distance for carriage, the results ascertained for the Warrior may be fairly inferred for the others.

The main items that make up the total cost are, the cost of the coal placed on the barges, the capacity of the tows, the time consumed in a round trip, and the running expense of the same.

The cost of coal in Pennsylvania is given in the report of the Secretary of Internal Affairs for 1882–83, as ranging from sixty-five cents per ton as the average for twenty-six collieries in Cambria County, to $1.09 for seventy-one collieries in Alleghany County. The average for the State, comprising 381 collieries, with an output of 18,730,000 tons, is placed at ninety-one cents. The average cost of mining alone was fifty-five cents per ton, but adding in the

cost of inside and outside laborers, mules, drivers, overseers, clerks, superintendents, etc., made the cost as above stated.

Presuming that the cost of mining in Alabama should not be greater than in Pennsylvania, we assume ninety-one cents as the cost of coal dumped on the barges at or near the rivers. We take the size of the tows at 215 feet by seventy-five feet, composed of five barges and a towboat. This size, we are informed, owing to the contracted width and sharp bends on the lower Warrior, is probably as large as could be safely and conveniently handled on that stream; and during the low-water season, say for four months in the year, the tow might be reduced to three barges. The capacity of the barges loaded five feet would be 315 tons, say, as a safe estimate, three hundred tons. The high-water tow, running for eight months, would have a load of 1,500 tons, the low-water tow, for four months nine hundred tons. The average load for the year would be 1,300 tons. As the tows were ordinarily run night and day, and make no intermediate landings, we assume five miles an hour as a reasonable estimate for speed. This would require seven to eight days for a round trip, allowing for detentions from fogs and storms, we may take ten days, as the time needed, which would give three trips a month, or an average of 3,900 tons per month for each towboat. The monthly expenses of running a tow, assuming that the crew would consist of a mate, two engineers, two strikers, two firemen, two pilots, a watchman, a cook and four deck hands, with a consumption of 225 tons of coal, $100 worth of provisions, and with 10 per cent. allowance for incidentals, would amount to $1,232. This would make the cost of towing about thirty-two cents a ton. Add to this the cost of mining as above given and we have $1.23 as the cost of coal on the barge in Mobile. To deliver this coal and to cover incidental charges would increase the cost to probably $1.50. Should it reach $1.75 it would still show a cost less than has yet been reached in any of our sea-ports. We may then consider the question of cost of transportations decided, and consequently the case for the coal rivers made out.

If it is expedient to spend nearly $4,000,000 on the Great Kanawha, ninety-five miles long, for the coal business of that stream, and we do not think the expediency has ever been questioned, it will surely be a wise measure to use $4,000,000, if needed, in opening the four coal streams of Alabama. With coal delivered in Mobile, even at the high estimate of $1.75, she will be the cheap-

est coal port on the continent. Every steam vessel that navigates the Gulf will come to Mobile for coal, or seek supplies at depots furnished by her. All the Gulf ports of the United States and Havana, Vera Cruz, Central America and the Isthmus will draw their coal from the Alabama Rivers. These facts show that the interests represented in this Convention are not local, nor confined to a single State. The commercial interests of the Nation are concerned, and just as the whole country is directly or indirectly affected by the removal of Flood Rock in New York Harbor, so will the deepening of Alabama's port, and the opening of her rivers, be felt throughout the land.

We have now laid before this Convention real facts and figures and comments, as we have been able to prepare in the limited time at our disposal. We have touched lightly on the merits of the separate improvements for localities whose interests are here represented. We presume each delegation is prepared to urge the claims of that particular improvement in which it is more especially interested.

But we would suggest that while these various interests should be presented each in its strongest light, they should appear, not as rival schemes, but as parts of one grand whole.

Should they conflict, their claims will tend to neutralize each other, while acting harmoniously together they will give a weight and momentum to the proceedings of this Convention that can not fail to have a powerful effect.

Present Mobile Harbor and its feeders as one scheme to Congress, and if it all can not be vigorously taken hold of at once, let Congress select such portion of it as will yield the quickest and best results, and push that through to completion. This finished will make still more urgent the necessity for completing the whole, and Alabama will then have what she especially needs, cheap transportation. We have cheap coal, cheap iron, cheap timber, cheap land, cheap cotton and cheap living—all the materials for building up prosperity but one—we lack cheap transportation, the cement with which to put the building together.

NOTE—By Mr. TANNER, of Etowah.—Instead of stating that $133,000 is required to complete the work from Rome, Georgia, to Greensport, it should show that $133,000 is required to complete the work from Rome to the bridge over the Coosa, on the Selma, Rome & Dalton Railroad.

The Committee also submitted the following, which was also adopted:

*Resolved*, That this Convention heartily favors liberal appropriations by Congress for the improvement of rivers and harbors in all parts of the United States, and recommend to our Senators and Representatives in Congress that they should act as a unit, and urge upon Congress the importance of making appropriations adequate for the completion, within a reasonable time, of the improvements recommended by this Convention, with a view to the speedy enjoyment by the people of the States and General Government of the advantages to be derived therefrom.

The following Committee was appointed to report a plan of raising funds to have five thousand copies of the Proceedings of this Convention printed:

M. L. Stansel, M. Lyon, H. H. Brown, J, L. Tanner, T. H. Watts, Jr.

The following resolution, offered by Mr. LYON, of Mobile, was adopted:

*Resolved*, That the Executive Committee of the Harbor and River Improvement Association consider the advisability of arranging for membership throughout the State, and fixing dues for said membership, to meet necessary expenses for the purpose of carrying on the work of the Association.

Mr. WOLFE, of Pensacola, offered a resolution with regard to improvements by the Government at Pensacola, such as restoring the navy yard, repairing forts, building land batteries, etc., which was referred to the Committee on Harbors.

Captain W. H. GARDNER, of Mobile, from the Committee on Agricultural Resources, made a report, which was adopted:

Your Committee beg to submit the following:

To agriculture belongs the credit of having first awakened human energy to the duty of providing, during nature's productive seasons, for their wants and necessities in non-productive

periods, and since the early historic periods, the power, greatness and material prosperity which Nations have achieved have, as a rule, borne an exact relation to the diligence with which they have cultivated the soil, or the judgment with which they have selected their grazing grounds.

The Egyptians, Assyrians and ancient Jews were essentially an agricultural people. So were the teeming multitudes of India, and, later on, the vast hordes of Central Asia, who, under the leadership of Genghis Kahn and Tamerlane, overran and conquered more than half of Asia and two-thirds of Europe, were drawn from the grain fields and cattle pastures.

The foundations of Roman greatness were securely established when the dominant industry of her people was agriculture; and, in the ripe maturity of her power, the immortal Cato penned a treatise on the subject, in the course of which occurs the following practical truth: "A good husbandman should be a seller, not a buyer." He also advises the selection of forms with reference to the ease with which their produce could be marketed.

Zenophon extols agriculture and credits the great Cyrus with the declaration that the first duty of the State was to foster and protect agriculture, as all human life was sustained directly by the products of the soil, and without prosperity in that department of industry, loss and retrogression inevitably followed in all others, thus involving the State in ultimate ruin. The soundness of the opinion is demonstrated by the history and present condition of those people who have persistently neglected their garden and farming interests.

Our inquiry, however, is restricted to the agricultural resources of the drainage basin of the waters seeking the ocean through Mobile Bay, and to that subject we will confine our investigations.

The only satisfactory basis for a detailed statement of the crops and values produced in the area mentioned is the census reports, but as production has materially increased since 1879, we have made such additions in certain counties as are warranted by their improved condition and increased acreage under cultivation.

The total cotton area of Alabama in 1879 was 2,330,086 acres. According to the National Cotton Exchange, the present acreage is 2,752, while the Agricultural Bureau places it as high as 2,823, the average of the two showing nearly twenty per cent. increase, which corresponds to the increase in the district under consideration.

The acreage of corn and oats shows a relatively larger percentage of increase than that of cotton. Our estimates are therefore based on an increase of fifteen per cent. for cotton, twenty per cent. for corn, and twenty-five per cent. for oats, the production of the latter having very largely increased under more rational farming methods.

The drainage area of the Bigbee River comprises eight counties of Alabama, thirteen and about half of two others in Mississippi; that of the Warrior six, and of the Cahawba three in Alabama. The Alabama, Coosa and their tributaries drain twenty and half of two others in Alabama, while the confluents and tributaries of the first two gather the waters of eleven counties of Georgia, and pour them into the great river of the State.

As the details by counties would be cumbersome, we group them by districts, and present them in that condensed form in the order above indicated:

| | Corn, Bush. | Oats, Bush. | Wheat, Bush. | Cotton, Bales. |
|---|---|---|---|---|
| Bigbee, Ala..... | 3,880,926 | 369,692 | 51,894 | 115,000 |
| Bigbee, Miss..... | 7,080,685 | 731,228 | 76,100 | 194,000 |
| Total Bigbee..... | 10,961,611 | 1,100,920 | 127,994 | 309,000 |
| Warrior..... | 2,744,000 | 277,455 | 311,319 | 56,200 |
| Cahawba..... | 1,411,430 | 155,900 | 55,000 | 38,850 |
| Alabama and Coosa, Ala. | 9,770,000 | 1,528,466 | 805,716 | 315,900 |
| Coosa, Ga..... | 3,821,400 | 597,458 | 735,418 | 70,100 |
| Total Alabama and Coosa..... | 13,591,400 | 2,125,924 | 1,541,134 | 386,000 |
| Grand total..... | 28,708,441 | 3,660,199 | 2,035,447 | 790,050 |

The annual production of cotton seed exceeds 27,000,000 bushels, which, after reserving 6,000,000 bushels for planting, leaves 21,000,000 bushels for conversion into oil, oil cake, meal, or for

fertilizing purposes, worth on the plantation more than $2,000,000. Since 1879 the tendency has been to seek a more self-sustaining basis, and, as a necessity, more attention has been given to gardens, truck patches and mixed crops. Hence we feel warranted in the statement that the present annual production in the area under discussion exceeds 800,000 bushels of Irish potatoes and 5,000,000 bushels of sweet potatoes, while that of hay has so enormously increased that your Committee hesitate to name the figures representing its present yield.

During the same period fruit and grape culture have developed important proportions, notably in Cullman, Chilton, Shelby, Montgomery, Chambers and Lee. The famous Parnell peach orchard, in Chambers County, alone comprises over 1,000 acres, being one of the largest in the United States.

The annual supply of hogs is fully 1,500,000; of milk cows and cattle, 850,000; and of sheep, 400,000.

It is an economic law that improves transportation facilities, stimulates enterprise, thereby increasing production and the value of lands. No industry is more quickly responsive to such influences than those of the farm, the garden and dairy; hence, with such facilities as will give the great mineral belt of Alabama easy access to the markets of the world, by cheap transportation, the energies of our people will be awakened to more vigorous and practical efforts, and the volume of agricultural values show a corresponding increase. The forests of Alabama and North-east Mississippi are as rich in the elements of material wealth as are the soils, and only less so than the mines. On all the rivers flowing into Mobile Bay are vast quantities of cypress, yellow pine, hickory, poplar, white oak, red gum and ash, while walnut and maple are found in considerable quantities.

No section of our great country is better adapted to the economical manufacture of furniture, wagons, agricultural implements, chairs and woodenware; and with deep water in Mobile Bay, and the free navigation of the Bigbee, Sipsey, Warrior, Cahawba and Coosa, Alabama enterprise and Alabama capital will rapidly transform millions of forest trees into forms of beauty and utility, thus opening up a new source of wealth which will give employment to many now seeking it and add millions to the taxable values of the State.

On page 14, Volume IV, of the Report of the Senate Commission of Education and Labor, may be found the sworn testimony

of Mr. Robert G. Kyle, of Gadsden, Alabama, who states that a mill then operated by him (November, 1883), was shipping yellow pine lumber to Ohio, for use in the manufacture of railroad cars.

Alabama pine will bear a greater vertical strain across the line of its grain without permanent deflection, or bending, than oak, poplar, or white pine. It weighs 41¼ pounds per cubic foot, against 55 pounds for oak, thus it was shipped by rail 650 miles at a rate of freight 33⅓ per cent. more than its cost at the mill, because of its superior merits. Why, then, with cheap coal, the cheapest iron and best timber in the United States, should not Alabama add the extensive manufacture of freight and passenger cars to her numerous other sources of wealth? She but needs cheap water transportation, for the easy concentration and delivery of her many elements of wealth at favorable localities, to speedily realize the most sanguine anticipations indulged by her friends.

What we all desire is the improvement of the water-ways of our State to their highest navigable point, and what we should do here is to organize and continue such vigorous and persistent efforts as will accomplish that result.

Other communities similarly situated do not limit their efforts to finely-drawn resolutions, elaborately-prepared speeches, or carefully-digested essays, but they send a well-informed delegation to Washington to lay facts and figures before the proper committees, and to urge favorable action thereon. Five million dollars, judiciously expended, will give us 23 feet of water from Mobile to the Gulf, the navigation of the Bigbee, Sipsey, Warrior, Cahawba and Coosa to their highest navigable points, and that sum is but a fraction of the amounts expended on needed improvements to the north and west of us.

It is no part of our policy to decry the merits of other enterprises seeking National aid. We of Alabama are National in our sympathies and convictions; we feel ourselves an integral part of a great Nation, whose vast resources need development, and each successful effort in that direction but strengthens our common country to compete in the markets of the world for a fair share of their trade. We antagonize no American industry, nor seek to impair the profits of any, but we present a plan whose successful prosecution will redound to the advantage of American commerce, as it will develop new industries, vitalize inert forces, increase the volume of our exports, aid materially in the

adjustment of trade balances, and assist beyond measure in the acquisition of Central and South American trade.

These are the new fields which American enterprise must seek as a market for her coal, lumber, provisions, flour and surplus manufactured articles; and no practicable scheme now before the country will conduce more largely thereto than cheap and easy transportation from the coal fields and furnaces, the workshops, forests and farms of Alabama, North-east Mississippi and North-west Georgia, to tide water, by the judicious improvement of our splendid system of natural water-ways.

W. H. GARDNER, *Chairman.*

Mr. A. H. MOSES, of Sheffield, offered the following resolution, and it was adopted:

*Resolved*, That our Senators and Representatives in Congress are requested to make an earnest and united effort to provide for the expenditure of a sufficient part of such appropriation as may be needed for the improvement of the Tennessee River, in Alabama, for the prompt improvement of the Colbert Shoals, below Florence.

Mr. SKAGGS, from Special Committee on the Eads Ship Railway, made a report, which was, after discussion, laid on the table.

Adjourned to 7 o'clock this evening.

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## EVENING SESSION.

Mr. STANSEL, from Committee on Finance, made a report, suggesting that each member of this Convention be requested to pay one dollar for the purpose of defraying the expenses of printing the Proceedings of the Convention, and that W. C. JEMISON be made treasurer of this fund.

The report was adopted, and the members present responded promptly with their dollars.

Mr. WATTS moved that the Treasurer mail to each of the delegates to this Convention six copies of the Proceedings, when the same shall have been printed. Carried.

Mr. HAMILTON, from the Committee on Harbors, to which was referred the resolution of Mr. Wolfe as to the Pensacola navy yard, reported that, while not denying the importance of the measures suggested in the resolution in question, it seems that these matters are not within the objects for which this Convention was called, and therefore recommend that no action be taken in the premises.

General WOOD, from the Local Committee on Correspondence, announced that he had in his possession a number of letters from members of Congress and other distinguished gentlemen invited to the Convention, and who were unable to attend. The following are letters from Congressmen WHEELER and OATES (which were read), and from Colonel JOHN T. MILNER and Colonel JAMES B. EADS:

WHEELER, ALABAMA, November 4, 1885.

*General S. A. M. Wood:*

MY DEAR GENERAL—I regret very much my inability to be at the Convention at Tuscaloosa, to which I was so kindly invited.

I am fully alive to the importance of liberal appropriations for Alabama rivers flowing into the Gulf, and it will give me great pleasure to do all in my power to assist the delegation in their efforts to procure the largest appropriations which can be intelligently used, for the improvement of those rivers.

With very high regard, truly your friend,

JOS. WHEELER.

ABBEVILLE, ALABAMA, November 13, 1885.

*General S. A. M. Wood, Secretary; H. B. Foster and F. R. Maxwell, Assistant Corresponding Secretaries:*

GENTLEMEN—Your esteemed favor of the 29th ult., inviting me to be present at the meeting to be held in Tuscaloosa, on the 17th inst., touching the improvement of our rivers and harbors, was duly received. I deferred answering until now, hoping that I

could be present; but sickness in my family will prevent me from attending. I assure you, however, and through you the Convention, that I am keenly alive to the importance of the improvements, which I am informed the Convention is called to consider, and will go as far as any reasonable man can in their advocacy; and I will work as hard in the next Congress as any Representative from Alabama to obtain the largest possible appropriations for the necessary improvement of all our navigable rivers and the Harbor of Mobile.

The completion of the work at Muscle Shoals, the removal of obstructions and opening to navigation of the Black Warrior from the great stratas of iron ore and exhaustless coal fields to Mobile and the Gulf of Mexico, and the Coosa, so that navigation be made reliable and easy between Rome, Georgia, and Mobile, as the most auspicious of coming events in the future of Alabama. These will inaugurate a new prosperity, the limitless possibilities of which can scarcely be conjectured.

As a citizen, and as a Representative, it will ever be my pride and pleasure to contribute in whatever way I can, though it be but little, to the prosperity and glory of my native State.

Again assuring you of my regrets that I can not be at the Convention, I am, Very respectfully,

WM. C. OATES.

NEWCASTLE, ALA., November 12, 1885.

*Hon. W. C. Jemison, Chairman, and Mayor of Tuscaloosa:*

MY DEAR SIR—Your very kind invitation to me to be present at the River and Harbor Convention, that will meet in Tuscaloosa on the 17th inst., is before me. I regret my inability to attend. My recent accident has practically unfitted me for business; besides, I am subpœnaed in an important case at Greenville, Ala., as a witness for the 16th. I am a railroad man, and all my instincts and ideas run in that current.

I look upon the Tuscaloosa Convention, however, as simply another step in the march of events. Great ideas like those contemplated in the call of this Convention—to-wit, the utilizing at Mobile of the mineral wealth of Alabama—develop slowly. My judgment was that a great railway, passing through our State by your city to Mobile, would accomplish the object. Upon the very heels of this proposition comes the call for this